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MEDICO-CHIRURGICAL REVIEW

AND
JOURNAL OF PRACTICAL MEDICINE.
(QUARTERLY.)

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The whole forming two large annual volumes of concentrated practical information in
MEDICINE, SURGERY, MIDWIFERY, PHARMACY, &c.

EDITED BY

JAMES JOHNSON, M.D.

Physician Extraordinary to the late King of Great Britain,

AND

HENRY JAMES JOHNSON, Esq.

Lecturer on Anatomy at the School of St. George's Hospital in Kinnerton Street.

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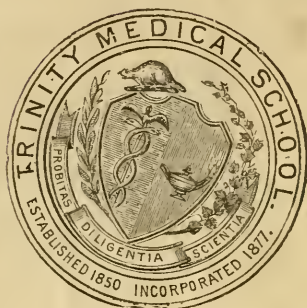
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THE
Medico-Chirurgical Review,

No. LXIX.

[NO. 28 OF A DECENNIAL SERIES.]

APRIL 1, to JULY 1, 1841.

PRACTICAL REMARKS ON THE DISCRIMINATION AND APPEARANCES OF SURGICAL DISEASE; with an Appendix, containing the Descriptive Catalogue of the Author's Collection in Pathological Anatomy; and the Hunterian Oration for 1833. By *John Howship*, Surgeon to Charing Cross Hospital, &c. London: John Churchill, 1840.

THIS work must be considered as possessing an additional interest and claim upon us, from the demise, since its publication, of the author. Mr. Howship has always evinced great zeal in the cultivation of pathology, and many of his papers have been highly valuable. If we do not owe to him remarkable discoveries, we are his debtors for useful facts, and the volume before us contains, if we mistake not, a considerable share of them.

We do not know how we can better present an epitomized view of its contents than by referring to the introduction. In that, the author tells us, that the first affection adverted to, is a peculiar description of chronic pain in the head; and here discrimination at once confers the power of affording immediate relief. Derangement or disease in the maxillary antrum introduces some interesting illustrations. The next subject is interstitial or ulcerative absorption of the bones of the cranium; and here the very first illustration is calculated to give an instructive lesson, on the necessity for understanding the principles as well as practice of Surgery, that we may proceed with judgment and pursue a right course. The last case adduced under this title is extremely curious, and, in a physiological point of view, very important, on several accounts, especially as exhibiting the operation of a most curious law in the system, that where atrophy of the brain induces a diminution of its volume, the cranium generally follows its contents, by a correspondent change of external form; although M. Cruveilhier, in his admirable work on Pathological Anatomy, gives a very striking exception to the rule. The remarks next in order, regard fracture of the basis-cranii, in which we see the advantage of watching and noting the effects of accident for a series of years; a habit, which now and then furnishes the student with a diagnosis not otherwise to be acquired.

These comments are followed by remarks on specific disease in the cranium, and its contents. Scirrhus tumours in the diploe or in the fibrous tissue of the dura mater. Fungoid tumour in the eye and orbit, or in the dura mater; illustrating the different modes in which disturbances or des-

truction of the substance of the brain may take place, from absorption, or disorganization. Next comes a series of remarks on the phenomena and causes of congestion of the brain, including the powerful influence of mind in its production. Several of the cases may be truly said to possess great practical interest, in reference to the discrimination and treatment of this disease. The consideration of deficient development or subsequent wasting of the limbs, next follows; from affection of the brain or of some part of the nervous system, leading on to a number of interesting and various practical illustrations.

The next condition of brain noticed is that of serous effusion; a condition, which may almost always be distinguished during life; and here it is satisfactory to observe, that where the existence of the disease is most clear, and where its progress has induced obvious enlargement of the cranium, a prompt recourse to active treatment may be attended with perfect and permanent recovery.

Injury of the head from the passage of the electric fluid through the brain, comes next in order; and here is drawn a curious and close parallel between the symptoms of concussion, extravasation, inflammation, and effusion, as induced by this cause, and as brought on by the more ordinary modes of external violence. Inflammatory affections of the brain offer some interesting distinctive features; and it may be remarked, that, when the excitement is superficial only, the symptoms may differ essentially, with the tissue principally involved, whether venous or arachnoide. The occasional and curious influence of abscess in the brain, near the origin of the olfactory nerve, in giving rise to a false sensorial impression is noticed, and practically illustrated. The formation of a large abscess in the lateral ventricle, without its having excited the least mental disturbance, is curious; but the production of several large abscesses in the substance of the brain (two of which abscesses are distinctly and demonstrably seen to be situated one within the other) is still more so.

The formation of hydatids in the brain may present symptoms by which this complaint may be distinguished from ordinary serous effusion, which it most resembles. Ramollissement of the brain should excite much close consideration and interest in the practitioner, from the discordance of opinion which still exists as to its cause, and consequently its treatment; while even its diagnostic symptoms are by no means uniformly admitted or generally understood. The practical illustrations under this title may, it is hoped, be regarded as affording some useful and important light.

Effusion of blood within the head is next considered; and whether from an internal or external cause may generally be discriminated. The severely painful affection, *tic douloureux*, was long supposed to affect only the nerves of the face; but experience has shewn the more extensive range of its influence; and the cases demonstrate its direct power of deranging not only the nerves of sensation in the body and limbs, but the various ganglia and organs supplied by the sympathetic system, the nerves of sense, and even the sensorium itself. The discrimination of the causes of compression of the spinal cord in the neck is important, and the agency of some of these causes obscure; several of the illustrative remarks on their operation will be found interesting and rare.

Tumour of the thyroide gland is not subject to much variety; it is oc-

casionaly liable to common inflammation and abscess, but very rarely indeed to scirrhus. The extent of infiltration into the cellular tissue, in the first case of bronchocele, is very extraordinary.

Chronic ulceration of the epiglottis, or larynx, easily distinguished, but not easily relieved, is in fact one of the most distressing and embarrassing cases that can occur; the misery induced by this disease can be understood only by referring to the annexed illustrations. The remarks on scrofulous disease in the cervical vertebræ may serve to illustrate, in some degree, the symptoms and appearances. Malignant disease of the face, or of the tongue, is noticed principally to establish its diagnosis. Spasmodic stricture in the œsophagus furnishes several interesting practical remarks and illustrations: as simple spasm, as inflammatory spasm, and as occasionally incurring a state of stomach no less serious than the complaint itself. The observations on malignant disease in the same part may much assist in the discrimination of these complaints. Abscess in the œsophagus is shewn sometimes to prove fatal, but the illustrations also demonstrate that it may terminate favourably.

Affections of the heart and circulation next follow. Adhesion between the heart and pericardium; enlargement or hypertrophy; aneurism: rupture of the heart; are each practically illustrated. Of the formation of polypus in the heart, independent of the comments, two cases are given, which appear to prove most clearly, not only that these concretions may form during life, but occasionally cause death. On disease in the valves of the heart, the illustrative remarks and appearances may, it is hoped, be regarded with interest and advantage; urging the importance of the stethoscope, demonstrating the fatal result of the disease, and pointing out the means by which its early progress may be detected and checked.

Aneurism of the thoracic aorta presents an important subject for study, with a view to its discrimination; the practical illustrations here adduced are calculated to throw some interesting light on the symptoms, appearances and treatment. Abdominal aneurism also offers some valuable practical illustrations; in three of the cases aneurism was cured, in one by an operation, in the two others by the natural process; one case is added, not of aneurism, but of disease simulating aneurism so closely as to defy all power of discrimination. The consequences of tumour formed in the coats of the aorta, near its origin, are shewn in two curious and interesting cases. Where the course of the circulation is interrupted by obliteration or obstruction of the aorta, the facility and efficiency with which the collateral circulation may be established, is most admirable and astonishing. Next follow remarks on obstruction from varicose enlargement, or from inflammation, of the veins; the discrimination of these complaints being assisted by a variety of practical illustrations. Obstruction to the circulation from local disease of viscera, gives rise to much interesting illustration of various kinds. The first case mentioned of soft white tubercles surrounding the large vessels of the heart, is believed to be of rare occurrence.

The remarks on the symptoms and discrimination of inflammation in the lungs, and its consequences, in various forms of effusion, may, it is hoped, be found useful at the bed side; they are illustrated by examples of hydrothorax, empyema, abscess, or ulceration with hæmorrhage, hæmo-

rhage without ulceration, and, lastly, tubercular disease. Then come the symptoms and discrimination of disease in the liver, commencing with inflammation, acute and chronic, abscess, purulent hydatid cyst, and serous hydatid cyst. Irritation from biliary calculi introduces several exceedingly curious and interesting practical illustrations; among which may be mentioned the enormously enlarged ducts within the liver, in the absence of a gall-bladder; the detection of permanent spasm of the gall-ducts; the escape of calculi by ulceration; and the large fungoid tumor, with a collection of calculi in its centre.

These are followed by affections of stomach, spasm, inflammation, effusion, ulceration, mortification, hæmorrhage, and organic or specific disease. Then succeed the diseases of the intestinal canal; altered action of the mucous exhalants, separating albumen, pus, or blood; deranged muscular action or spasm, with the means for more efficiently detecting its existence and precise seat, noticing certain very peculiar symptoms, probably the result of reflex irritation, obstruction, and intussusception, inflammation and ulceration of the mucous tissue, and occasional influence of ulceration on the nerves of the lower extremities, abdominal abscess, and specific diseases in the bowels.

In the last place are described the various forms and appearances of hernia, some of the illustrations of which are believed to be very rare; the case of thyroideal hernia, especially, presenting a diagnostic symptom that appears not to have been before observed.

In a work made up of miscellaneous facts, like the present, a systematic analysis would be impossible. All that can be done is to select those observations that are likely to be useful or are novel, and lay them before our readers. The genius of medical literature in this country, and the practical tastes of the profession are not altogether repugnant to works of this description.

ON CHRONIC PAIN IN THE HEAD RELIEVED BY INCISION.

There are, says Mr. Howship, certain cases of chronic pain in the head, occasional or constant, from injury or otherwise, generally seated in one spot, over which the scalp is painful, tender, and somewhat tumid; in which medicine is of little or no use. In these cases, a division of the scalp, by an incision, carried across the spot down to the bone, will prove the most efficient treatment.

The relief experienced from this operation is such as can only be explained in the light afforded by pathological anatomy, which enables us to see that, in many chronic affections of the scalp, the membranes of the brain, and especially the dura mater, participate; inducing pain, and all the ill consequences of the congestion of the brain.

Mr. Howship relates two cases. The first was that of a lady aged 31, who had suffered from pain in the head, for years, in spite of all medical treatment. Division of the tumid and tender scalp gave immediate and permanent relief.

The *second case* is still more interesting. H. D., a coachman, a sober man, complained of severe pain in the head, distressing him many years,

and of late so severe that he was scarcely able to sit on the box; and when up, dreaded the attempt to get down. Medicine useless; nearly distracted, and tired of his life. He said that, sixteen years before, he struck his head, by a fall, upon some soft meadow ground; that from the confusion that followed he soon recovered, but became subject to pains in the head, especially in the seat of the injury, over the left parietal bone, where the scalp was still sore, painful, and puffed. Mr. Howship cut through the scalp and thickened pericranium, down to the bone, which was uneven and rough, but not carious. The night before this operation he had not slept five minutes, from severe pain, but said he felt relief the moment the bone was exposed, and the following night rested better than for months before, getting three or four hours' refreshing sleep.

The wound nearly healed in a month; the old pain partially returned, with a sense of numbness in the side of the face, as before the operation; but the wound again suppurating, remained open several months longer, and then healed permanently. From this time he lost all his complaints; continued well; and some years afterward, told Mr. H. he never was in better health than he then enjoyed.

ON ULCERATIVE OR INTERSTITIAL ABSORPTION OF THE CRANIUM, FROM IRRITATION OR INJURY.

Mr. Howship was consulted by Mr. B., a gentleman who stated that thirty-two years previously, he had suffered severely under the removal of nearly the whole necrosed right, and part of the left, parietal bones, from syphilis. He recovered his health, and for very many years remained well, with a large depressed cicatrix, beneath which was a smooth expansion of new bone, deposited in the granulations from the dura mater.

Lately, he had been rendered extremely uneasy, by a part of the cicatrix spontaneously ulcerating, without local pain or other sign of ill health. The ulceration extending, a few thin, small scales of new formed bone came away. Within a fortnight he was attacked, for the first time, with gout. The ulceration healed, although his gradual recovery occupied several months; but there was no subsequent return.

Mr. Howship conceives that it was the irritation of the latent gout that gave rise to the inflammation. We are not sure of this. Disease of the bones, after syphilis (probably mercurial), is very apt to recur without any ostensible cause, and it might as well give rise to the gout, as the gout to it.

"Occasionally," says Mr. H., "from external injury, in young children, some extent of the skull has been removed by interstitial absorption. If blood be effused beneath the scalp, leeching may lessen its quantity; but if not, should it be let out—and when? An early opening may add a second irritation to the first; and any delay in letting it escape may perhaps operate to induce absorption of the subjacent bone. As a rule, I think it best to make an early opening." 7.

Mr. H. relates two cases that occurred in children. We shall introduce one.

Case.—T. G., aged three years, fell down an area, struck the back of his head, and was taken up senseless. Under proper treatment he recovered; but a month after, a considerable tumour remained just above the lambdoidal, and over the sagittal suture. The elevated scalp soft and yielding; the pulsation of the brain was distinctly perceived in the tumour, even by the eye; so that any opening incautiously made through the scalp might have injured the dura mater or brain, and destroyed life. The opening in the skull was three inches long and one broad; the ossific margin in parts presenting a raised and compact, or slightly tuberculated edge.

Neither is this liability to absorption from external injury confined to an early period of life. In one instance, Mr. H. detected a small opening produced in the vertex of the skull, through which the brain pulsed, in an aged woman; the consequence, she said, of a bruise from a blunt iron, many months before; yet productive of little pain or inconvenience.

Mr. Howship mentions the particulars of a curious

Case of Extensive Absorption and Necrosis of the Cranium, with Atrophy of the Brain.

R. H., aged 36, who stated that she had never had syphilis nor used mercury, had suffered for the last fourteen years from extensive necrosis of both parietal bones; the separation of numerous pieces from both jaws, with or without teeth; portions of the left frontal bone; the angle of the right lower jaw; and more recently the mastoid process of the right temporal bone, which came away by the mouth, while the attachment of the sternomastoid muscle nevertheless remained undisturbed.

On the superior part of the right side of the head, the brain appeared to have been adequately defended by a formation of new bone beneath the extensive cicatrix upon the scalp, where pulsation, formerly obvious, could not now be felt.

The most curious point, however, in this case is, that although the deficiency of bone in the cranium is partially supplied, the form of the skull has undergone an astonishing though slowly progressive change. The right side of the cranium has sunk to a much lower level than the left, the corresponding hemisphere of the brain having sunk also, in consequence of progressive atrophy of its substance; for the configuration of the head demonstrates that in this direction the cerebrum must have undergone absorption of a part of its mass, nearly or quite equal to one pound weight. It is remarkable, also, that in this case the deficiency in the cerebrum being principally on the right side, the defective condition of the nervous and muscular powers of the limbs is on the right side also.

The superior part of the frontal region has at the same time sunk extensively on both sides, completely changed the aspect of the profile. The mental operations are remarkably disturbed. The only medicine that has been of any service in relieving the extreme feelings of irritation that exist about the head is sarsaparilla.

"This extremely interesting and curious change in the frontal bone, I mentioned to a gentleman well known for his distinguished labours in phrenological science. I supposed it new; but he immediately pointed to a cast demonstrative of a similar change in a late illustrious personage,

who, in the decline of intellectual power, sustained a great diminution in the volume of the anterior lobes cerebri; the sinking of the cranium, insensibly following the declension beneath it, from absorption of the brain; as proved by the casts taken."

FRACTURE OF THE BASIS CRANII NOT FATAL.

There can be no question that fatal as this accident usually is, it occasionally does not prove so. Mr. Howship relates two interesting cases of recovery. One we shall introduce.

Case.—T. C., 68, fell down stairs, upon his head. Blood flowed freely from the mouth and ears, through the night; the discharge from the ears subsequently becoming purulent. Symptoms of concussion were soon relieved.

Six months after, with much pain at the back of the head, he could obtain sleep only with the back of his head on a pillow, but not on either side; and was often obliged to sit up in bed all night, holding his head with his hands. Occasionally he was delirious and rambling, but never violent, with severe pain in the night, always less in the day.

Two years after the accident, this man still rested very badly; subject to stupor and giddiness, even in the day, and often starting suddenly up in the night, as if delirious, when not so. One night he jumped up in bed, and began talking strangely; his wife accused him of being light-headed, but he said no, he was perfectly awake, and sensible.

"It appears to me, then, that where a patient, under injury of the basis of the cranium, may have partially recovered; by the presence of the symptoms just noticed; bleeding and suppuration, in one or both auditory passages; congestive and uneasy feelings, about the basis of the brain; want of power to bear pressure on the head, and the mild nocturnal delirium; the practitioner may be instructed to give a guarded and cautious opinion, as to any eventual restoration to perfect health." 15.

TEMPORARY AMAUROSIS, FROM AFFECTION OF THE OPTIC NERVE.

It would appear probable, says Mr. H., that a temporary amaurotic blindness may, now and then, arise from a transitory suspension of power in the optic nerve, in which, from the undisturbed state of the organ of vision, on the one hand, and the absence of any sign of congestion or affection of the sensorium on the other, we seem obliged to admit that the defect must be confined to the optic nerve; the temporary character of the attack at the same time forbidding the inference of existing organic disease.

Case.—Mr. F., aged 30, mentioned to Mr. Howship a curious affection of sight to which he was liable, about six years before. He had a feeling of numbness in the right eye, and, within a minute, total loss of sight, so that he could not perceive the flame of a candle when held to it. This lasted three or four minutes, and then gradually subsided; at first he would see the light without distinguishing objects, and in ten or fifteen

minutes was quite well. This attack, which returned twenty or thirty times in the space of six months, was never attended, preceded, or followed by pain or other complaint in the head. He had requested a medical friend, more than once, to look at the eye during the attack and compare it with the other, but he could discern no difference between the two.

ON DEFICIENT DEVELOPMENT OF PARTS.

Mr. Howship alludes to a series of cases having one character in common, that of deficient growth or developement, or a wasting of the muscular structure of the limbs, in consequence of affection of the brain from which the nerves proceed, or of disease in the vicinity or course of these nerves.

These complaints are all essentially characterized by an inadequate transmission or unequal distribution of nervous influence.

Mr. Howship relates two cases of paralysis and deficient development of the limbs, arising from the cerebral congestion produced by teething. We quote one.

Case. E. F., a healthy child, eighteen months old, from the irritation of dentition, suddenly lost the use of the left side; she was no longer able to stand on the leg or move the arm, which, if raised, fell powerless. Mr. H. directed a blister to be kept open on the neck, and the bowels to be cleared. In a week she was able to stand a little; the improvement more slow in the arm, the fingers could only be partially moved in a month. In three months apparently recovered; in six months the blister was allowed to be healed.

It was curious to observe, during subsequent growth, the deficient symmetry in the two sides. At thirteen years, the left arm was much smaller, and one inch and a quarter shorter than the right; a similar deficiency also existing in the leg. At eighteen, the left arm measured one inch and a half less in length than the right; and the left leg, only two-thirds the circumference of the right, was two inches shorter than the other. She was still unable perfectly to extend the fingers of the left hand, but could walk firmly and freely.

Mr. H. also gives a case of deficient development of the right arm and leg from congestion of the brain, produced by fever. From these he passes to cases of another sort.

1. *Case of deficient Development from External Injury.*—E. T. 14. Fell down stairs when four years old, and bruised the hip. She subsequently had repeated abscesses about the hip-joint, followed by slow retraction of the limb. The retraction eventually subsided, but the deficiency in growth remained. Mr. H. found on examination, the hip-joint sound, but the affected leg much emaciated, very weak, and, when measured, four inches shorter than the other.

2. *Case of deficient Growth, from Cold, by sitting on Damp Grass.*—C. C., æt. 20, when two years old, was carelessly laid on the left side upon

some damp grass. She took cold, her left leg became weak, and some time after was observed not to keep pace with the other in growth, becoming thinner, smaller, softer, and shorter. On comparing the limbs together, Mr. H. found the left leg and thigh very much smaller and weaker, and three inches shorter than the right; and as to power, she was not able to walk more than a quarter of a mile a day.

"In several cases of chronic dysentery, I have seen lameness and wasting of the lower limbs; in one particularly, in a young man, the patient became perfectly and permanently helpless, the thighs drawn up, the legs completely retracted and incapable of motion. In these affections the diagnosis will be sufficiently easy: the absence of any organic disease in the limbs and the presence of symptoms demonstrative of dysenteric irritation in the bowels, cannot fail to explain the character of this complaint." 32.

Mr. Howship adds, that the mere act of volition, unequally exerted, the mere habit of using one limb more freely or frequently than the other, may lead to the same result; as in the following case.

Case.—J. C. a strong, healthy man, applied for a high-heeled shoe, his left leg being shorter than the right. He said he was very well till bound apprentice to a turner, he found that standing constantly on the left leg, and working the treadle as constantly with the right, pain often distressed his left knee, and the limb gradually declined in growth.

On comparing the limbs, Mr. H. found much enlargement about the left trochanter, apparent shortening of the neck of the femur, and a degree of stiffness, at first appearing to arise from ankylosis. The left, just three inches shorter than the right leg, was extremely thin and deficient compared with the right, which was muscular, large, and vigorous.

EFFUSION OF SERUM WITHIN THE HEAD.

Mr. Howship remarks, what we confess gives rise to some misgivings in our mind, that—"There is an occasional symptom especially diagnostic of external hydrocephalus or effusion between the membranes; when present, I should say it is impossible to mistake the seat of the deposit. One of the cases in which I observed this symptom most distinctly was the following."

Mrs. D., 53, with hydrothorax and anasarca, was for years subject to occasional attacks in the head, in which, always disposed to dose, her senses were observed by all her family to be yet awake to the lightest and least impression; but the peculiar symptom was this, that, whether in the night or day, she would be at one and the same time light headed, yet perfectly sensible; speaking to herself incoherently, yet, if spoken to, answering clearly and rationally. On examination, Mr. H. found abundant serous effusion between the membranes, but no accumulation in the ventricles.

Dryness of the Pia Mater.

Mr. Howship has never witnessed but one case of this.

Case.—J. S., 37, of sober and silent temper, complained of violent pain

in the head and loins; the latter arose from red gravel, which was occasionally passed with the urine. The violence of head-ache made him stagger and affected his sight, yet he could get no sleep. In dressing his horses, it was often expected he would get kicked, for he frequently went to the heels instead of the head, not seeming to know what he was about. Mr. H. visited him before his death, to draw off his urine; the eyes insensible to light, the pupils dilated, and the mental and physical powers entirely oppressed. The next day he died. On laying aside the dura mater, Mr. H. found the arachnoide and pia mater unusually dry, just as if exposed for twenty-four hours in a warm air, so dry as to feel positively firm and crisp. The ventricles contained about four ounces of serum; the medullary substance of the brain was so firm, that the cavities did not even partially collapse on the escape of their contents.

ON INJURY BY LIGHTNING.

"In my Course of Lectures on Surgery, I am in the habit of comparing concussion of the brain from external violence with the impression induced by the electric shock; but, on following out the parallel, it becomes extremely doubtful whether concussion should be selected in preference, when so many widely different results also arise from this peculiar description of injury. It may be supposed scarcely necessary to devote much pains to ascertain the cause when so active an agent has been concerned, for these phenomena loudly proclaim themselves; and if instant death was the invariable result in every such case, it might be an inquiry of comparatively little importance; but when we find that all the various effects of injury from other causes are occasionally produced by lightning, we see the evident and high importance of considering and discriminating as correctly as possible, not so much the cause, as the precise changes of condition to which it may have given rise, in order that we may thence be enabled to decide with advantage upon the most appropriate treatment." 41.

Mr. Howship adds that, as the injury sustained depends not on the quantity but the intensity of the electric fluid, the influence of one and the same shock will occasionally induce strange diversities of effect, according to the position of individuals on the conducting power of substances near them at the moment of the accident.

One of the most remarkable circumstances regarding the effects of the electric shock on the living body is this; that while the mildest power incurs only a slight, sudden, contraction in the muscles, with sense of pain in the nerves, ligaments, and joints, and a more severe shock excites violent convulsive action, the most severe shock, demonstrating the greatest intensity of power, is productive of effects of a diametrically opposite character. The rapidity of thought is proverbial, and the quickness with which the convulsion responds to the passage of the ordinary electric shock, is sufficiently remarkable, but under the greatest intensity of power, the passage of the electric fluid seems too quick even for the nerves themselves; for instead of the body being most violently disturbed, it is not moved at all; and if the person was sitting by the fire, or asleep, he so remains to all appearance, until discovered to be dead.

Where sudden death is thus produced, it appears that the transmission of the shock through the body at once exhausts the vital power, and com-

pletely destroys the living principle; and this takes place with such inconceivable rapidity as to effect its purpose before even the nervous system can take the alarm; and that the living principle is instantly destroyed, in the solids and fluids, is evinced by the muscles not stiffening, the blood not coagulating, and the whole body sinking almost immediately into putrefactive decomposition.

Mr. H. relates several cases—one of slight injury from lightning, which merely produced red marks in the skin of the back, of a delicate arborescent character, not painful or elevated, but slightly heated—another case, in which a stroke of lightning gave rise to all the symptoms of concussion of the brain—a third case, in which, after a lightning stroke, concussion, followed by violent tremors and febrile excitement, terminated in purulent effusion between the membranes of the brain—and finally, several other cases in which the effects were such as would ensue from rupture of a blood-vessel in the cranium.

Mr. Howship relates some interesting cases of *Abscess in the Brain*, without, however, we are afraid, rendering our diagnosis much more certain. Speaking of *Hydatids in the Brain*, he observes (we wish we could be so confident):—"The distinguishing symptom here appears to be an occasional attack of convulsion or insensibility, which scarcely disturbs, in the least degree, the intellectual functions; from which attack, where the case presents in its most simple form, the patient is absolutely restored to his activity of body and clearness of mind almost in an instant, the attack coming on and going off suddenly.

ON RAMOLLISSEMENT OF THE BRAIN.

Mr. Howship makes some observations on the causes and on the treatment of this serious affection. After noticing the inflammatory hypothesis of Lallemand, and the opinion of Rostan, that it depends on a morbid state of the cerebral vessels, he remarks:—

"My own opinion is with M. Rostan, that ramollissement may arise as an accidental consequence of inflammation, yet that it certainly does often occur without any evidence of preceding inflammatory excitement. But I also believe that it may take place without inflammation on the one hand, or disease of blood-vessels on the other. The importance of this opinion, if correct, must be at once admitted, seeing that it presumes the disease to be, in certain cases, so far more within the reach of relief, than was before supposed. I feel assured it may arise in this way, and that in two cases to be presently related, it did so arise, from excessive mental fatigue, inducing long continued congestion of the brain; and in one of these cases it will especially be seen, that the adoption of an antiphlogistic course would soon have destroyed life, but that a watchful attention to the indications that presented, and the persevering direction of the most powerful tonics and anodynes, proved the obviously efficient means of saving and restoring the patient." 58.

Mr. Howship criticises the sentiments of M. Rostan on the incurability, or something very like it, of ramollissement, and then presents us with an account of the symptoms as they have occurred under his own observation.

"We now then come to the symptoms, by which ramollissement may be discriminated. As I have seen them, they may be said to include the following. Occasional pain, uneasy feelings or giddiness in the head, the impressions through the senses disturbed, the least sound insupportably agonizing, moderate light distressing, the feelings now and then so acute, that the lightest touch extorts most piteous cries, the sentient nerves in the extremities deranged, with feelings of numbness, or of a sandy sensation about the toes and fingers, stiffness in the limbs, rendering the walk unsteady or unsafe, the temper of mind changed to extreme impatience, uncontrollable dejection, or absolute indifference, total want of sleep, or, when dozing, disturbed by most frightful dreams, the mental faculties invariably affected, perception slow, judgment difficult, memory feeble or false, imagination gone, ideas confused, the patient dreads and perhaps cannot endure the least conversation, or if for a few minutes exposed to it, subsequently sinks into the most alarming state of exhaustion. As the disease advances, the patient, especially under the least mental occupation or excitement, is liable to a sudden attack, something between coma and convulsion, in which, although deprived of utterance, and to appearance near death, he is perfectly conscious of his state. From this attack he revives, and after an uncertain interval sustains a return, more severe than before, perhaps with paralytic symptoms, under which he at length sinks.

These then are the leading symptoms. They rarely all occur in the same individual, but the presence of any two or three of them would be sufficient to enable the attentive practitioner to discriminate this most fearful disease. If, for example, the sensations described in the head occurred in connection with the morbid acuteness of sensation in the skin or in the ear, together with any of the other symptoms, they would offer a combination, which, regarding its steady permanence, could scarcely be supposed to be the consequence of inflammation, hysteria, or any disease we yet know of, except that now under consideration." 60.

Mr. Howship relates several cases of fatal ramollissement, and two instances of cure. We shall introduce the shorter of the two, and leave it to our readers to decide what degree of credit they will attach to the belief that the affection was really cerebral softening.

Case.—Mr. F. 50, a gentleman in the law, long subject to uneasy feeling in the head, had to visit Chester. Anxious occupation through the preceding week, in considering and arranging the various causes for trial, had made him much worse; and when in court, in the midst of his duties he fainted outright, sunk down completely powerless, and slightly convulsed, yet conscious, hearing all that was said, although unable to speak. Dr. Thackery saw him, and directed aperients, spare diet, and quietude. A relative went down, brought him to London, and Mr. Howship found him complaining of frequent returns of violent shootings through the right temple, and faintings; also a sense of numbness all through the right side, with sandy feelings in the hands and feet. Dr. Hooper visited him with Mr. Howship; his bowels were kept freely cleared, which, with an occasional gentle opiate at night, light diet, and the most perfect quietude, were beneficial. The fainting fits and feelings of exhaustion became less frequent and less severe. The pulse, never excited, was now soft and small, at sixty. The strength and power in the limbs, in the course of a month, much improved; and the preceding distortion of the features and closing of the left eyelid, had quite disappeared. He still walked with a stiff and awkward gait, the soles of his feet not seeming to himself to feel

the floor; and so weak, that one morning he fainted on the night-chair, and being alone, fell to the ground.

As to the previous affection of sight, he told Mr. H. first came the double sight, then the sickness without vomiting, and then the fainting in court. The double sight was not strictly so, but a multiplying of one object to many. Or, if he took a pen and put it down on the paper, it was placed half an inch away from where he intended; and when he had written, he found it was in the wrong place. He observed there was the same error in kind now, only much diminished in degree. There was also a little flickering in his sight still; but otherwise he felt quite as well, and even better now, than before he left town.

For many subsequent weeks, this gentleman was directed the *vinum ferri*, the shower bath, a nutritious diet, and wine; the bowels being constantly attended to. Under this plan, he so far recovered as entirely to lose all his complaints, except that he had still a very slight sense of occasional sandiness in his hands, a peculiarity in feeling which remained so late as six years subsequent to the attack.

We certainly know of no positive reason why *ramollissement* of the brain should not in its earlier stages be curable. The difficulty is to say when the affection really exists, or rather, when *such* a morbid leison *has been* cured.

We pass over several subjects, to pause at two, not very common cases, one of inflammation, the other of abscess of the thyroid gland.

CASE.—Inflammation in the Thyroid Gland.—J. D., aged 16, took a severe cold, the submaxillary glands becoming somewhat, and the left lobe of the thyroid gland more, enlarged. Mr. H. found the latter swelling firm and hard; the skin covering it dry and hot. The tumour, closely attached to the base of the larynx, moved with it in deglutition. For a day or two, with heated skin, quick pulse, and white tongue, stinging and shooting pains were severe. A grain of calomel, *ter die*, in a few days subdued the symptoms, and he was relieved from all his uneasiness; the indurated and horny feel of the swelling subsequently, but slowly, subsiding.

CASE.—Inflammation and Abscess in the Thyroid Gland.—A mail guard, exposed to a deep snow, took cold, felt poorly and stiff about the jaws; inflammation settling with much heat and tumor about the larynx and trachea, impeding respiration to an alarming degree. The tumor, heated and red, was firm as horn, with feverish disturbance. Although the larynx was nearly fixed, it was evidently enough inflammation of the thyroid gland. Poultices and fomentations, assisted by tonics, in a few weeks induced suppuration, and the abscess broke and discharged several ounces of pus, to his relief and comfort. He now breathed more freely, and rapidly improved in appetite, spirits, and strength; the abscess healing in about three weeks.

SUPPURATION IN THE SUB-MUCOUS CELLULAR TISSUE OF THE LARYNX.

We notice the following case for reasons that we shall state immediately.

Case.—A. B., 30, had a succession of acutely painful, and actively suppurating biles, on the thigh, forearm, and back of the hand. When the ulcer on the forearm, which had discharged portions of fascia and tendon, had been open nine or ten days, the secretion of pus suddenly diminished, and in two days ceased entirely; and on the same day he felt uneasiness in his throat. In a few days, respiration became impeded, from some cause, situated evidently in the larynx. Towards evening, the difficulty in breathing was alarming, his features betraying most extreme anxiety and distress. Supported in bed, a consultation was immediately called; antispasmodics directed, and a blister laid on the chest; at six A. M. he expired.

Post mortem.—The cause of death was confined to the thyroide cartilage, the space within which had been so restricted as to produce suffocation. The cartilage divided, the cellular tissue connecting the mucous membrane to the cartilage was inflamed, thickened, and diseased, especially just beneath the arytenoid cartilages, where it formed a spongy, elastic cushion, projecting from each side, and closing the passage into the trachea. This spongy substance, cut into, numerous globules of a thick purulent matter started forth; the colour and consistence of the pus, and the other circumstances of this case, presenting a strong analogy to the character of carbuncle.

We draw particular attention to this case, because it is the representative of a class. It is, unfortunately, far from uncommon for a patient to complain of what seems and is treated as a simple sore-throat, and suddenly to be cut off. On examination after death, suppuration is discovered in the sub-mucous cellular tissue of the larynx. It is hard to lay down any diagnostic signs of this affection. But when the symptoms seem severe beyond their apparent cause, and the expression of distress is disproportioned to it, we should recollect the possibility of suppuration and beware.

STRICTURE OF THE ŒSOPHAGUS.

“In the detection and treatment, the superiority of the silver ball and elastic curved wire, over the ordinary instrument, the boughie, cannot be too much insisted on, exciting much less irritation, and conveying much more information, as to the state of the pharynx, the precise extent of the contraction, and exact condition of the œsophagus below.” 93.

The following case is not devoid of interest:—

CASE.—*Inflammatory Spasmodic Stricture of the Œsophagus.*—“Mrs. E., 63 from severe cold and sore throat, had great and increasing difficulty in swallowing. Afraid of losing a desirable situation, she concealed her complaint, and foolishly neglected her health, until, from want of support, she became emaciated, typhoid, and so weak that she could not stand. In this state I found her, with black and parched tongue, small rapid pulse, hot skin, and thirst. With difficulty I persuaded her to let me introduce the smallest silver ball to a contraction at the bottom of the pharynx, which the instrument would not pass. Unable to take medicine, incapable of taking food, and evidently perishing from want, she was nevertheless sufficiently obstinate to throw away still more valuable

time, in resisting for several days her daughter's entreaty and my persuasion, to allow the instrument to be again introduced. She then did submit, and I soon passed the stricture, so that now she could get down small morsels of meat. But now another difficulty arose, for although the food passed fairly down, it was almost directly rejected again. It appeared that the stomach, so long inactive, had become so irritable and contracted, as to be scarcely capable of relaxation; a difficulty in which medicine appeared likely to be of little service. She was therefore enjoined to persevere in taking nourishment, solid or fluid, in small quantities, frequently repeated, notwithstanding its rejection. This she did, and soon began, very gradually to improve. The feverish excitement slowly subsided, the power of retention returned, the strength was restored, and she perfectly recovered." 96.

We are induced to believe that patients are occasionally treated for stricture of the œsophagus, as for stricture elsewhere, without any just occasion. Nor is the mistake always a harmless one. Bougies in the hands of those unaccustomed to them are sometimes dangerous weapons, nay, they may be so even in good hands. Sir A. Cooper used to relate a case which occurred to Sir E. Home and himself. He had found a difficulty in passing an instrument down the œsophagus; Sir E. Home was called in. He took the instrument, passed it in good style, and injected through it milk and water into the *stomach*. Violent symptoms soon set in, and in a few hours the patient died. On examination, the milk and water were found in the posterior mediastinum! and we have seen a bougie take the same route in overcoming a stricture which was not in existence.

MALIGNANT DISEASE IN THE ŒSOPHAGUS.

"The discrimination of malignant disease in the œsophagus may, under some circumstances, be doubtful, but where the complaint has existed some time, and the symptoms are considered with care, the seat and cause may almost always be determined with precision. In some few cases, exhibiting every peculiarity of scirrhus structure, the characteristic pains have not been apparent; but the exceptions are extremely rare.

The presence of the peculiar heat and darting pains of scirrhus, may be held fully to establish the existence of this disease, while their absence only leaves the question doubtful. The discrimination of soft cancer, or fungoid tumour, may be assisted by recollecting, that the constitutional tendency in this disease is always to irritation; a condition, the presence of which will always render its existence probable; and, if seated in the upper part of the œsophagus or pharynx, there may even be the peculiar darting pains along the eustachian tubes observed in scirrhus." 97.

We confess that we have witnessed cases of malignant diseases in the œsophagus, more particularly of the fungoid kind, unattended with pain, or with any other symptom than difficulty of swallowing. In one or two of these cases their real nature has been dubious, and the diagnosis mainly hinged on the peculiar aspect of the patient. The following case is not uninteresting.

CASE.—*Stricture from Fungoid Tumour in the Pharynx.*—Mrs. H., 36, had been some years subject to aching pain and difficulty in swallowing,

whenever she took cold, a complaint first felt in a severe sore throat. The small silver ball would not pass an obstruction at the lower part of the pharynx, from whence a ropy mucus was freely excreted. The throat exhibited no appearance of disease, but externally, the right side, opposite the larynx, felt rather full, soft, and tender to the touch. Although the obstruction in the œsophagus was spasm only, the instrument often introduced, during several months, could not by gentle pressure be made to pass beyond it. The pulse, weak and small, was liable to high excitement from the slightest cause. The local distress was a difficulty in swallowing, and in passing flatulence; occasionally the throat felt heated and painful, shooting laterally to the ears.

The stricture not relieved, the instrument was laid aside. Once, at her urgent request, introduced, it passed only to the contraction, and brought up some minute fragments of a soft solid substance, as if from the ulcerated cavity of a medullary disease. She continued to sink, and, after five months' suffering, died.

Post mortem.—Mr. Howship found the cellular tissue at the posterior part of the pharynx infiltrated with a pulpy white matter, as in soft cancer: this deposit at the right side of the pharynx having formed a tumour, and ulcerated through the mucous membrane; and into this cavity the instrument had passed on the occasion of its manifesting the characters of the disease.

A longitudinal section down the posterior line of the pharynx demonstrated the muscular structure, converted into a brownish, semitransparent, soft substance. The mucous membrane was extensively ulcerated nearly round the cavity, and almost the whole depth of the pharynx. The stricture, still contracted, was somewhat thickened; below this point the œsophagus was healthy.

We have seen a very similar case, and, in that, the instrument passed into a cavity in the fungoid mass. How careful, then, we should be with instruments! The gentlest manipulation, the most cautious judgment are requisite in treating these cases.

ABSCESS IN THE ŒSOPHAGUS.

The formation of matter, says Mr. H., between the coats or in the cellular tissue of the œsophagus, is, in common, easily discriminated. The probability of such an event may sometimes be inferred from preceding injury, although accidental cold or constitutional predisposition may induce it.

This event is announced by febrile excitement, local sense of heat, throbbing, and tumour, with pain and difficulty in swallowing. The sudden rejection of purulent matter may demonstrate the fact, but the course and event of the case will be still uncertain, dependent on the seat, extent, connexion, and tendency of the abscess, and no less upon the manner in which it has opened; points that cannot always be determined with precision.

We confess that we have seen cases of suppuration between the coats of the œsophagus by no means so easy of discrimination as this would

lead us to imagine. The difference consists, we apprehend, in the fact of the suppuration being circumscribed or diffused. If the former, diagnosis may be easy—if the latter, obscure. We may cite an instance of the former.

Case of Abscess in the Œsophagus.—S. N., 28, with severe cold, felt swelling in the throat, just opposite the top of the sternum, acutely painful, especially in speaking. Of this she got better, and nearly recovered, but the symptoms soon returned with increased violence. She was awake in the night, nearly suffocated with an acutely painful swelling situated just behind the root of the trachea, which, in the attempt to swallow, felt as if the part was turned over. The spot in front of the trachea, she said, was extremely tender to the touch. Easy in that position, she was obliged to remain sitting up through the night, with great anxiety, but little fever. In the morning, endeavouring to swallow a little tea, it went down to the swelling, but no further; and with cough and violent straining it suddenly returned, together with a considerable quantity of yellow thick pus. She felt instant and great relief, from pain, swelling, and dyspnœa, rapidly improved, and soon recovered.

Mr. Howship relates no case of diffused suppuration. The symptoms, such as we have seen them, have been rigors, pyrexia, uneasiness about the throat, anxiety, low fever and delirium, death.

We may introduce another case of circumscribed abscess and ulceration of the Œsophagus, related by Mr. Howship, and ending fatally.

Case.—Miss L., 62, under care of Mr. Carrick, had uneasiness at stomach, some difficulty in swallowing, and occasional regurgitation of food, from supposed dyspepsia. Solids, in small morsels, went down slowly, exciting a dull, heavy pain, extending from the pit of the stomach to the back bone; otherwise in health. The appetite was good, yet nearly every thing returned, sometimes with a ropy mucus. Nutritive clysters ordered, when combined with an opiate, soothed and allayed the feelings. For some weeks, as much as several pints of glairy mucus was rejected daily; stools clay-coloured, and destitute of bile. Injections of gruel came away in an hour, but those of mutton broth remained quiet altogether.

In about a month she felt something give way, apparently where the tender and painful obstruction had existed, and pus, streaked with blood, was rejected by the mouth. She could not swallow, bowels acting, and stools tinged with bile. Instead of a quart of mucus daily, she now spit only a little pus, but complained of occasional flushes of heat. About a fortnight after this, she gradually declined, sunk, and died.

Post-mortem.—In the right chest we found the healthy and partially adherent lung floating in nearly eight ounces of fetid pus, which had issued apparently from an ulcerated opening; the Œsophagus, right lung, and stomach, were removed. Laying open the Œsophagus, it appeared that about three inches above the cardia it was ulcerated. The adhesion between the lung and the diseased Œsophagus was ulcerated through, from the cavity of the abscess between its coats, passing its contents outwards into the chest, and inwards into the Œsophagus, where the ulceration of the mucous lining, and

exposure of the cavity of the abscess, was more extensive. It appeared that inflammation of the cellular tissue of the œsophagus had induced extensive effusion of albuminous and purulent matter between its coats, with subsequent ulceration of the mucous membrane, allowing the escape of pus, and exposing the albuminous matter involved in the cellular texture, as found on examination.

ANEURYSM.

A considerable number of cases of aneurysm are reported. We are induced to quote the following, because it may inspire a wholesome caution.

Case of Aneurysm of the Arch of the Aorta, terminating fatally in a Warm Bath.—Mrs. S., aged 46, complained of constant oppression and uneasiness, with occasional sharp pains shooting through the back bone, down the left arm, and up that side of the neck. Gentle exercise induced increased difficulty, pain, and cold perspiration. The same symptoms sometimes came on in sleep, with frightful dreams, obliging her to start up, and sit for some time supported with pillows. Pulse 88, soft and weak. In the palpitations, the action of the heart sometimes intermitting, would cease to vibrate, then flutter quickly, and so gradually recover. The pain at the heart, passing into the neck and arm, was occasionally so severe, that the arm for a time lost all power and feeling. Finding herself, as she said, sufficiently weak, she would neither submit to lose blood nor restrict her diet, but begged to be allowed to visit Brighton. When there, she was induced to get into a warm-bath, but was no sooner in than she entreated to be taken out again, and instantly expired; in all probability from the sudden relaxation of the vascular system inducing rupture of the sac, and fatal hæmorrhage.

We think that it was the acceleration of the circulation that gave rise to this. The warm-bath is far too indiscriminately used, and when any disease of the heart or arteries exists, it ought to be refrained from. In febrile disorders, attended with much vascular action, the warm-bath is equally dangerous. Such is the case with rheumatic fever, and metastasis to the heart has been the consequence of the employment of the warm-bath. The case before us is a warning, and as such we address it to our readers.

Scirrhus Pylorus mistaken for Aneurysm of the Abdominal Aorta.—This case we introduce because we have witnessed a similar one.

Case.—J. B., 45, under care of Mr. Hora, had received a blow upon the chest, twenty months before, and had never felt well since. As he lay on his back in bed, a pulsation was so evident, that the hand laid on the scrobiculus cordis, perceived the action of the heart, over the aorta, beating powerfully. Pressing the tumor, the size of a small orange, laterally, it seemed to expand, or pulsate, in that direction as well as forward. The patient, however, was not, as he should have been, requested to place himself on his hands and knees, a position that would

most probably have cleared up the doubt, by rendering the tumor at once pendulous, and independent. Several medical gentlemen who saw the case, agreed in the opinion that it was aneurysm.

The tumour, several months increasing, had first attracted notice by its painful throbbing. When painful, it generally disturbed his stomach with sickness. He soon died.

Post-mortem.—On examination, the tumor, which latterly had much increased, proved to be disease at the pyloric end of the stomach. A scirrhus induration, which, with a considerable adipose deposit, had drawn down the inferior end of the stomach, so as to place the seat of disease in front of the spine, and immediately over the aorta.

During the past Winter we saw, with Mr. Barret Marshall of Chelsea, an elderly man affected with a pulsating tumor in the belly. It was about the size of a small orange, though flatter and more oblong. It was situated in the hypogastric region, though moveable to either side. It pulsed strongly. When diverted to one side, the pulsation was less distinct. It was conceived to be aneurysm of the aorta or of one of its leading branches. We were of opinion that it was either malignant tumor in the omentum or scirrhus of the pylorus. The ordinary symptoms of the latter were absent. The man died, and scirrhus of the pylorus it proved to be.

INFLAMMATION OF THE VEINS.

Mr. Howship relates several cases of obstruction of the venous system and of inflammation in it. We shall pick out some of the more instructive.

Case of Inflammation of the Posterior Tibial Veins, on the Decline of Pneumonic Inflammation.—Mr. G., 32, under care of Mr. Love, was convalescent from an attack of inflammation in the lungs, when he complained of acute pain in the leg, in the course of the large vessels downward from the popliteal space behind the tibia, with total incapacity to stand upon the limb. The pulse was quick, skin hot, and tongue white, with thirst. Mr. Howship found no external heat or tenderness, only an increase in the deep-seated pain on compressing the gastrocnemii.

The mercurial influence, promptly established by the blue pill with opium, aided by repeated leechings, fomentations, and abstinence, soon relieved and removed this complaint; so that, in three weeks he was enabled again to place his leg to the ground without aggravation of the pain, in six weeks he was quite well.

We notice this case, because we believe it is not very rare. After operations, injuries, inflammatory affections attended with the formation of pus, secondary inflammation of the posterior tibial veins, and, if we mistake not, the sural veins, is not uncommon. The calf of the leg swells, is slightly œdematous yet tense, a faint flush may suffuse it, there is great tenderness on pressure, and much constitutional disturbance. Sometimes the patient dies, sometimes he recovers—in all instances the affection is severe, and should be understood.

Case of Varicose Veins attacked with Gouty Inflammation.—J. P., 47, a postman, had been long subject to varicose veins and cramps in the left leg, where there was a cluster of very large varices, in some parts filled with coagula. All his life liable to uneasy and relaxed bowels. A troublesome diarrhœa checked by carminative and alkaline medicines, he the next day complained of pain in the left foot and ball of the great toe, with heat, redness, and swelling; the pain shooting violently up and down.

In a few days the medicine had much relieved the relaxation in the bowels and inflammation on the foot, but at the same time the cluster of varicose veins, above and below the knee, became excessively heated, inflamed, and painful, neither enduring the least pressure nor the slightest touch. It was clear the gouty action, suddenly shifting from the foot to the leg, had as suddenly seized upon the enlarged veins. In three or four days the affection shifted back, his foot again becoming tender, painful, and inflamed, and the veins on the leg in the same degree easier, and able to bear examination and pressure as well as ever.

Mr. Howship passes to Diseases of the Liver. Among his cases we find one of

Inflamed Liver, with Obstructed and Punctured Gall-Bladder.

CASE. A. N., 34, at the age of thirteen, had loss of appetite, headache, fever, and jaundice; in about a month he recovered. At thirty, in India, attacked with pain in the right side and shoulder, with sense of internal swelling, he was again relieved by treatment. In three or four years, his health reduced and his legs swelled and ulcerated, invalided and sent home, he was taken into St. George's Infirmary, still sensible of internal swelling, which now manifested itself outwardly beneath the cartilages of the right ribs, with pale stools, and a bilious tinge upon the skin.

Fomentations applied, a central softness induced Mr. Heavyside to puncture it, and about two ounces of a thin purulent bilious serum flowed out. For many weeks, pure bile alone was discharged. Several ounces flowed off daily. In three months, the discharge became scanty and purulent, and the opening contracted and healed, the stools re-assuming their healthy bilious colour, and the patient his feelings of perfect health.

We believe this is not the only case that has occurred of a distended gall-bladder being taken for the hepatic abscess and punctured. And it has not happened, in every instance, that the bile has been purulent, or that the patient has recovered.

Permanent Spasm of the Gall-Ducts, occasioning Death.—A. B., 18, died after forty-eight hours of excruciating pain just in the seat of the gall-bladder, shooting through to the back, positively relieved while blood was flowing, but only transitorily. On examination after death, Mr. Howship "found a slight adhesion of the anterior edge of the lower right lung to the diaphragm. In the abdomen the small and large intestines contained a white mucous matter, but no trace of bile. The liver perfectly healthy, the gall-bladder large, tense, and full. Stomach inflated, soft, pulpy, and discoloured, with spots of blood effused into the cellular tissue of the vilous lining. The duodenum, gall-bladder, ducts, and part of the liver were removed for subsequent examination.

The gall-bladder opened, a rosy greenish black bile flowed slowly out, a little of which, rubbed in a basin of water, gave a diluted tinge of a brilliant warm yellow. A probe lightly introduced would not pass, nor could I at all find the opening from the gall-bladder by the probe. The ductus communis punctured with a lancet about its middle, a very small probe, with some difficulty, passed through it into the bowel. In the opposite direction it passed with tolerable ease by the hepatic duct into the liver, and also with difficulty into the entrance of the ductus cysticus, being stopped half an inch short of its termination in the gall-bladder. I attempted, in vain, to pass the smallest blunt wire, the duct being apparently completely impervious. Carefully dissecting off the peritoneal coat, I found the impervious duct, solid, contracted, tough, and opaque, like a soft ligamentous structure; the open part of the biliary passages having all the characters of health.

The ducts, placed on a piece of glass, in a cool place, I laid aside and examined six hours after, and found, that air, by a blowpipe, now passed through that portion of the duct I had concluded obliterated; and when further dissected, for putting up to demonstrate the contraction, it had become as perfectly relaxed as any other part of the tube.

It was thus unexpectedly demonstrated, that the whole obstruction had been spasm, and it was clear that the most complete contraction detected in one part of the duct had probably existed in another also, and therefore, that the ductus communis, during life, had been also perfectly closed by spasm, preventing the bile from flowing into the bowel."

Convulsive Cough from Biliary Calculi.—Case.—Mrs. C., 53, was for thirty years subject to hard dry cough, which no medicine would relieve, occasional paroxysms of the most extreme pain at the stomach, sickness and vomiting, depressed pulse, and cold sweats. The stomach rejecting every thing, during the attacks, in the last of which, of unusual severity, she sunk and died.

Post mortem.—There were slight adhesions between the fundus of the gall-bladder, omentum, margin of the liver and diaphragm. The gall-bladder opened, contained healthy bile, and a quantity of small angular gall-stones, three drachms in weight. The other viscera sound: it appeared that these concretions were the only existing cause of irritation.

SPASM OF THE STOMACH.

Mr. Howship thus describes the causes of this, and illustrates his observations by cases.

"Spasm of stomach, from the irritation of biliary calculi, has been shown to induce most intense pain, readily distinguished by the sudden accession and decline of the attack, the rejection of everything taken, the pain and tenderness at stomach, the slow pulse, faintness, and cold sweats, by the sudden relief afforded by antispasmodic medicines, and by the condition of this organ thus affected, being occasionally found after death to be a close contraction, not of the central part alone, but the whole pyloric portion of the stomach: the cardiac extremity, although relaxed, being from irritation deprived of its power of retention.

‘ Painful spasm of the stomach, exhausting the powers of life, and apparently induced by mental distress, either alone or assisted by gouty influence, may be regarded as a consequence of extreme irritation, precisely similar to the above, to be discriminated to a certain extent by the same train of symptoms.

A contraction less in extent, but equal in degree, presents itself to the notice in the exceedingly rare case of central contraction of the stomach, in which it may be presumed that the inconvenience sustained, scarcely going beyond diminished power of retention, depend on the small amount of contraction, and its not being liable to fits of irritation. The probable existence of this condition, derived, as I have seen it, from hepatic irritation of moderate intensity, may be suspected from frequent uneasiness, but little pain at the stomach, by retention of the smallest portions of the mildest nutriment only, and by the evidence of hepatic disease, pain, tenderness, or tumor, about the liver, perhaps with jaundice.

The last form of pure irritation to be noticed, operating to destroy life, by weakening the powers of the stomach, may occur, as in one instance, from the confinement of the smallest bit of omentum in an almost imperceptible herniary protrusion; a case, the discrimination of which, notwithstanding its obscurity, would only require attention to the history and to the state of the part.” 207.

Purulent Effusion between the Coats of the Stomach.—We introduce this case because we once witnessed, at St. George’s Hospital, a like one. We never saw but the one, and we are therefore inclined to think the affection rare. In the instance that fell under our observation, as in this, the patient was a spirit drinker.

Case.—Mr. B., 45, an intemperate spirit-drinker, was subject to attacks of pain and sickness at his stomach for fifteen years. The attack was generally preceded, for a day or two, by a distressing, burning heat in the stomach: sickness and vomiting then came on, with outward tenderness, and went off in a few days. These complaints increased in severity; and on the day of his last seizure the severity of pain prevented his taking any food. He felt cold, and had repeated slight rigours, and said he feared he should have spasms at the stomach, which he had heard were dreadfully painful. He soon after felt sick, and the next day, with Dr. Ager, Mr. Howship visited him. Pulse weak and small, 120, skin hot, tongue white, great pain and tenderness in the stomach. Mild saline and diaphoretic medicines, with a blister, were directed. The following morning, the medicines rejected, he became comatose, was slightly convulsed, so remained, and in the evening expired.

Post mortem.—On opening the abdomen, the stomach was found not to be discoloured externally, appearing and feeling thicker than natural; it was removed and laid open along the lesser curvature, where the thickening was greatest. In making this and other sections, it appeared that pus, fibrine, and serum, had been freely effused into the sub-mucous cellular tissue through all parts of the stomach. In some parts the effused matter was principally purulent, in others fibrinous, with here and there traces of fine capillary arteries shooting into the newly deposited fibrine. Behind the longitudinal rugæ, in the infiltration was a transparent serum. At the lesser curvature, the thickness of the coats of the stomach was nearly half an inch, in consequence of these changes.

Spasmodic Stricture of the Cardia cured by Blue Pill and Opium.

“I was once called to visit a gentleman who had a very narrow escape with his

life, from spasm closing the lower end of the œsophagus, a circumstance I never witnessed before or since. Neither solid nor fluid would pass; it went down to the spot, remained as a weight, and soon returned. The sudden accession almost proved it spasm, and perceiving that an eruption on the hands, having the characters of rhagades, had receded, it struck me, at the moment, that the pil. hydrarg. would reach the spot, and might possibly relieve the affection in time to save life. I ordered pil. hydr. gr. iij. opii. gr. ss. secunda quaque horâ, which was regularly taken. Within two days the mouth affected, the stricture relaxed, and the patient recovered." 221

We quite agree with Mr. Howship in the following attempt at *discriminating the symptoms of scirrhus and soft cancer*, in the stomach and alimentary canal.

When, he says, the specific disease is of modified character, inclining to the condition of soft cancer, while the total loss of power, as to function, still assists discrimination, there is little or nothing of that peculiar distress and pain that distinguish scirrhus. An irritable and relaxed state of bowels, is, perhaps, more positively characteristic of the medullary than of the scirrhus form of cancer.

SPASM OF THE COLON AND SPHINCTER ANI.

Mr. Howship lays down some diagnostic symptoms of the varieties of spasm that affect the large intestine.

Acute Inflammatory Spasm.—Bowels confined, stomach irritable, sudden accessions of violent pain, extreme tenderness of abdomen, with constitutional disturbance, equal to that of peritonitis.

Chronic Inflammatory Spasm.—In one instance, originating in a blow, and augmented by an attack of fever, more or less constant pain in the seat of stricture, aggravated by costiveness or exercise, and capable of perfect, though not permanent relief, by blistering.

Permanent Spasm.—Habitual confinement, obstinate costiveness, or sudden ileus, and death. Uneasy flatulence behind, but no uneasiness in the stricture. Marked sympathy with the state of mind. Vexation or trouble, suddenly arresting digestion, inducing acidity, flatulence, sudden and excessive mental depression, or dread of insanity.

Occasionally a peculiar disturbance is manifested through the sympathetic system, paroxysms of violent excitement in the action of the heart, with distress and difficulty in respiration coming on in sleep. Loss of retentive power in the stomach, with tenderness of abdomen and prostration of strength. Slightly painful spasms in the part now and then, at first induced on injecting the bowel.

The stricture, in rare cases, the seat of frequent uneasiness, under mental fatigue, anxiety, or confinement of the body to one position, becoming acute, or very acute and capable of relief only by relaxing the mind, or by taking bodily exercise. Enlargement and accumulation behind the stricture, in some instances exciting chronic diarrhœa. In the appearances after death, the occasional decline of circulation and deficient vascularity very remarkable.

Permanent Spasm of the Sphincter Ani.—Constant uneasiness, distress-

ing or intolerably severe pain, obtuse or acute, in the sphincter, which on examination, is found unusually firm, hard and closely contracted; the pain increased by exercise, or even sitting, and prone to recur with aggravated severity in sleep. Medicine nearly or entirely useless.

Mr. Howship dwells on the advantage of enemata in cases of spasm of the colon. A warm emollient fluid should be introduced with the least possible disturbance to the sphincter, at a temperature of 98°, passed in slowly and gently, waiting if pain arise till uneasiness has ceased, to such amount as may distend the intestine to its fair capacity, and so be retained for fifteen, twenty, or thirty minutes.

He relates two cases of spasm of the sphincter cured by the daily introduction of the bougie.

From among numerous cases of ileus, &c. we select one, for its practical utility, of—

Intus-susception successfully Treated by Distention of the Bowel

CASE.—Mr. H. was requested to see Miss J. W. æt. four years, seized the preceding evening with pain in the bowels, sickness at stomach, and violent tenesmus, yet voiding only blood. These symptoms still existed with quick hard pulse, hot skin, white tongue, with tense and tender abdomen. Mr. Plumbe had very properly directed leeches and aperients, the latter being rejected by vomiting. An enema also had directly returned. Both considered it as a case of intus-susception of some part of the intestines. Three days passed without relief; abdomen rather less tense, pulse 160, stomach rejecting every thing. It was clear the child could not live, unless something more was done. Mr. Howship suggested the trial of an injection of warm gruel, which, if the intus-susception happened to be situated in the great intestine, might possibly be useful, but could not add to the danger. The fluid was injected gradually, and the action of the sphincter steadily assisted by lateral pressure to prevent the fluid escaping. The great difficulty was its retention, without which, the case was hopeless. As the quantity increased, the abdomen was gently and repeatedly rubbed, and as the operation proceeded, it was observed that although the abdomen was of course more full, it became less painful than before. During the hour occupied in the operation, the skin became cool and moist, the pulse fell to 110, and the perpetual retching entirely ceased. The fluid was then permitted to flow off very slowly, to give the bowels time to contract. The enema brought away some soft fæces. The quantity injected, when returned, was found to exceed two pints. An aperient mixture in small doses at short intervals, previously rejected, now remained quietly on the stomach, soon passed through, progressively cleared the bowels of a large quantity of pulpy fæces, and the child perfectly recovered.

Abscess between the Rectum and Vagina.

This is no common case. Its narration may assist diagnosis in others.

CASE.—M. B. 24, fifteen months previously, from habitual costiveness, had frequent straining to relieve the bowels; and under constant exposure to all weather, drinking spirits, and often sleeping in wet clothes, constant tenesmus, aching at the loins, burning heat, with sickness and retching,

came on. The tenesmus, flatulence, and pain in the back, sometimes brought blood with the stools, which generally contained purulent matter. The rectum examined, Mr. Howship found within the sphincter a soft protruding tumor, made up of numerous folds of the inner membrane, through which the finger could find no opening. Notwithstanding occasional relief from anodyne or other medicines, the constant and distressing tenesmus, irritation, and pain continued to increase, until she sunk and died.

Post-mortem.—The lower part of the rectum was not contracted, but thickened. The muscular coat, apparently one-eighth of an inch thick, not indurated, yet presenting a semitransparent greyish texture, like incipient scirrhus. Just above the sphincter, the relaxed, abundant, and œdematous mucous membrane, collected into folds, explained the obstruction felt during life.

Between the rectum and vagina, just above the sphincter, an abscess had formed, discharging its contents by an opening in the gut, and continuing to secrete pus from that time until she died. The mucous membrane of the bowel, at various points was ulcerated, from the opening of the abscess to some distance above.

Mr. Howship observes, in reference to this affection, that, "instructed by this and by another case of the certain event, if let alone, finding a young lady so situated, I took the uncertain chance of escape from bleeding, and made a deep section. Healthy action and granulation followed, and she recovered; but I never was more near losing a patient by hæmorrhage than in this case."

Peritoneal Inflammation, simulating Psoas Abscess.

Case.—E. S., 17, a servant girl, lifting a weight, strained her loins and felt pain in the back; at first trifling and seldom, at length considerable and constant. In twelve months, a swelling formed in the right groin, receiving an impulse in coughing. It broke, and discharged freely for many months, with frequent severe pains at the loins, especially when the bowels acted. Declining in strength, she took bark. The discharge lessened, pain in the loins increased with throbbing, when the stomach sickening, she felt something break in the bowel, not, she said, low down, but high up, followed by an immediate and copious discharge of pus, per anum. The previous distress and aching in the back became much easier, and the discharge gradually lessened. It gathered again, and six weeks after the first, it broke a second time into the gut, and discharged at once near a pint of matter; she gradually sunk, and in three weeks died.

Post-mortem.—In the abdomen, Mr. H. found the lower part of the rectum, the uterus and appendages involved and concealed in a quantity of effused fibrine, having the appearance of a very condensed cellular tissue, filling up the pelvis. The rectum adhering to this effused matter, and repeatedly reflected on itself, had received the contents of the abscess, which had formed in the midst of the mass of fibrine, discharging its contents, at first through the groin, and afterwards by an opening high up, into the rectum; but the parietes of the abscess had so contracted, as latterly to be scarcely capable of containing half an ounce of pus.

We certainly have not selected *every* case or *every* observation of interest
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in this volume. But we believe that we have presented our readers with the majority; and, unconnected as they are, they still are calculated to afford some useful hints to practical medical men.

A COMPLETE PRACTICAL TREATISE ON VENEREAL DISEASES, AND THEIR IMMEDIATE AND REMOTE CONSEQUENCES. INCLUDING OBSERVATIONS ON CERTAIN AFFECTIONS AND DISCHARGES. By *William Acton*, late Externe at the Female Venereal Hospital, Paris. Octavo, pp. 410. London, Renshaw, 1841.

MR. ACTON has been a zealous and ardent disciple of M. Ricord's. He has followed his practice, collected his opinions, become imbued with his ideas, and laudably endeavours, in the present volume, to put the English reader in possession of them. The following dedication sufficiently expresses Mr. Acton's sense of what he owes to M. Ricord. To that gentleman it is addressed.

"Europe may admire the genius of the author of the '*Traité Pratique sur l'Inoculation*,' the British critic may call you the French Hunter, and the Institute may crown you with laurels; but the pupil who, for a series of years, has watched you at the bedside, performing the varied experiments which are overturning long conceived opinions, and collecting those facts which form the basis of a new school, can alone adequately feel, and sufficiently appreciate, that honest and manly candour which is always ready to acknowledge errors, and that generosity which allows others to participate in opinions still unpublished."

As we purpose, on a future occasion, returning to M. Ricord's work, and to this, we shall content ourselves for the present with noticing incidentally a few points of practice.

Diagnosis between a virulent Gonorrhœa and a simple one.

The French surgeons have a great objection to the term *gonorrhœa*. They point to its derivation and absurdity. But it has been so long in use, and the ideas derived from its origin are so exploded, that it matters little whether we stick to it or *blennorrhagia*. Be that as it may, there has been, to our minds, a great deal of useless altercation on the means of distinguishing a "virulent" gonorrhœa from a "simple" one. Indeed it is difficult to know exactly what a "virulent" gonorrhœa is. Is it a severe one, or one followed by secondary symptoms? We apprehend that different authors will be found to use the term in different ways. The following are M. Ricord's views.

"The previous views of authors show how much difference of opinion existed on this subject when M. Ricord undertook to show that the cause of a virulent blennorrhagia depended upon the complaint being complicated with a *chancre*. In women, more especially, he found that what was called a virulent gonorrhœa depended upon the existence of ulcerations, which could not be discovered by an examination of the external organs of generation, but which the use of the speculum clearly proved to exist; but did all ulcerations give rise to a virulent

gonorrhœa? was the next question to be solved. At the time this eminent surgeon was investigating the subject, he often had occasion to treat the woman from whom some of his male patients had contracted the disease, and he found that there were various forms of ulcerations, the secretion of which caused simply a mild gonorrhœa: there existed others, however, which caused sometimes chancres on the glans penis and prepuce; on other occasions, virulent gonorrhœas. In vain did he try to distinguish these ulcerations by their physical characters. It was only by inoculation that he was enabled to prove why sores similar in appearance gave rise to such different consequences. Inoculation soon showed him that there may exist an ulceration of a *specific* character, which will be described in its proper place, and called chancre; but there likewise exist ulcerations of a *simple nature*, the result of an inflammatory state of the mucous membrane, which were frequently the consequence of a blennorrhagia. From this moment that which was previously doubtful became clear, and an inquiring and observing mind like his was not long in deciphering what had been the *opprobrium medicorum*.

From what the speculum showed clearly to exist in the vagina, he naturally concluded that similar appearances might exist in the urethra of the male, but which, from its small size, it was impossible to demonstrate. However, one opportunity of examining the urethra, followed soon after by a second, put him in possession of two cases, which he showed to the Academy of Medicine, in which chancres existed in the whole course of the urethra. He thus discovered the key to this hitherto difficult labyrinth; and concluded that the only diagnosis between virulent and mild blennorrhagia is derived from inoculation.

The experiments, frequently repeated, of inoculating with the secretion of a simple mild blennorrhagia, produce only a slight irritation, which subsides in a few hours; whereas, if the complaint is virulent, or, in other words, depends upon, or is complicated with, a chancre which is concealed, or which can be brought into view by the speculum, the secretion introduced under the skin, in a similar way as in the former experiment, will produce a vesicle, pustule, and chancre. This, then, I call the *certain pathonomic* diagnosis of a virulent blennorrhagia. A rational diagnosis may be drawn from the rosy, thin, serous, or rusty colour of the discharge, provided such be present, as well as from an indurated spot in any point of the canal, accompanied with fixed pain, &c.

Should buboes follow, which on inoculation give rise to the characteristic pustule, it may be asserted confidently that the blennorrhagia is a virulent one. The occurrence of secondary symptoms, which only follow in a few cases, gives a further diagnosis of the same fact.

It is, however, the rational diagnosis that the surgeon must usually depend upon, as inoculation cannot always be proposed, or he may find patients object to submit to it; he must, however, remember that it is but a rational one, and on such data be cautious how he risks his reputation by giving an opinion." 47.

That there are cases of syphilitic sore in the urethra is indubitable. We have ourselves published two or three, and seen two more. In those cases the sores have been easy of detection by any observant surgeon. The inoculation test is a favourite one with M. Ricord. We confess that we think the value of inoculation in cases of venereal disease is overrated. First, fallacies may stick to it. In a bad habit of body any discharge might produce by inoculation a sore, and one of ugly characters. What sort of evidence would that be? Suppose (what we believe has happened) a phagedænic sore so produced. Is that an evidence of virulence or not? It is neither, because, phagedæna, depending on the state of the recipient rather than on the nature of the virus, syphilitic matter may occasion it as well as other matter. Short of phagedæna, we have no doubt in our

own minds that discharges of very different kinds might give rise by inoculation to sores of dubious character.

In the second place this difficulty has always seemed to us to attach to inoculation. A sore has a doubtful character. To determine if it be syphilis we inoculate with it. Suppose a similar sore produced. It does not follow that that is syphilitic. Acrid discharge occasioning the first may occasion the second. If syphilis had as fixed characters as vaccinia or as variola the discrimination would be easy. The standard of comparison being precise, the object selected could fairly be compared with it. But if the standard be a fluctuating one, what strict comparison can be instituted? If, indeed, only syphilitic sores could be communicated by inoculation, the difficulty would vanish. But this we disbelieve in toto. Look at the effect of dissection wounds, at the effect of dabbling in acrid discharges totally different from venereal ones. Sores are excited that, occurring on the penis, or produced by inoculation with gonorrhœal matter, would, not unfairly, be pronounced syphilitic.

In the third place, it is by no means certain that genuine syphilitic matter must of necessity reproduce a sore. It would require a vast array of experiments to establish this. A person may be inoculated with variolous matter and not take variola, with vaccine matter and not exhibit the vaccine vesicle. In the act of connection, a brief contact with syphilitic matter causes syphilis. Yet the discharge from that syphilitic sore may lodge for weeks upon the prepuce and not generate a second sore. Why may not inoculation be inoperative too?

Finally, inoculation is in practice useless, or not very remote from useless. What surgeon in this country would propose, what patient submit to being inoculated with matter from his urethra, to solve a difficulty more apparent than real, and very likely not to be solved after all? What surgeon would propose, what patient submit to, the risk of phagedæna for such a reward? We say phagedæna, for we are confident that were inoculation general, phagedæna, would every now and then occur. A French hospital and an English consulting room are very different places.

Our own conviction is that inoculation has been overrated—that it is much less satisfactory and much more objectionable than is represented.

Is the Speedy Suppression of a Gonorrhœa safe?

"A patient will sometimes ask the surgeon if the treatment he is about to prescribe will give rise to a stricture or a swelled testicle. It is a very common error to suppose that the treatment will occasion either of these complaints, and this, like many other popular errors, has taken its source in medical writings, which have stated that a blennorrhagia speedily cured will give rise to various other complaints. M. Ricord says, we may state distinctly that no ill consequences are to be feared from any treatment, provided it is not grossly improper. If (pursues that surgeon) I were disposed to be aphoristic, I might say that the ill consequences will be few, in proportion as the cure is speedy; and I defy any one to produce a case cured in twenty-four hours from its commencement, which has been followed by any ill consequences. There are prejudices against speedily curing a blennorrhagia, and I may be told by some surgeons, 'after a practice of full thirty years, I am of an opposite opinion.' But I ask, may not such a practitioner have laboured under a mistaken notion during thirty years? Is implicit belief in a fact, for that space of time, a proof that that fact is true? Has not an old author said, and very truly, 'experientia fallax?'" 48.

It is odd enough that this very day a practical comment on this doctrine came before us. A gentleman whom we had treated for gonorrhœa two or three years ago, and that with safety and success, applied to us under these circumstances. Last year he went to Paris, and caught a gonorrhœa there. He went immediately to M. R——, who gave him very powerful doses of cavi and cubebs, and strong injections. He felt, he said, all on fire with the medicines. The gonorrhœa was stopped in a week, but from that time to this he has been subject to severe headaches, his digestive organs have been totally deranged, and a stricture soon supervened. We have no hesitation in expressing our dissent from the doctrine that M. Ricord has laid down.

Diagnosis of Gonorrhœa.

"Every tyro in medicine will at once distinguish what he calls a clap, by means of the symptoms above described: but such a person may not be aware that a surgeon cannot always decide at once whether a man is suffering under a gonorrhœa or not, provided no discharge be observed, and the lips of the urethra be not inflamed, and no stains seen on the linen. M. Ricord gives the following instance of the occasional difficulty. He was ordered by a magistrate to give an opinion whether or not a prisoner, said to have violated a girl, was labouring under gonorrhœa or not. The accused presented no swelling of the lips of the meatus; on pressure, no discharge came from the urethra, and there existed no traces of any secretion on the shirt. When interrogated, he stated he had made water six hours previously to the examination. As M. Ricord had some suspicion, he ordered him to pass his urine at once, and desired one of the gaolers to watch his prisoner; in six hours after, M. Ricord returned, and then found undoubted marks of an existing gonorrhœa; the prisoner confessed that he had made water previously to the first examination, and had taken care to remove the secretion as soon as formed by a piece of lint which he had concealed for that purpose." 75.

We have never seen an "undoubted" gonorrhœa without an obvious vascular fulness of the mucous membrane. On everting the lips of the urethra, it is either seen florid, with punctuated redness (we employ a lens) and a semi-abraded appearance, as if the epithelium were partially removed, or the veins of the mucous membrane are enlarged and tortuous.

How to compress an Inflamed Testis.

"The *emplastrum vigo cum mercurio*, of the French codex, is the preparation that M. Ricord employs, cut into strips about half an inch wide; but other adhesive plasters answer equally well; the less irritating they are, however, the better.

The manner of employing them is as follows; embrace the affected testicle in your closed hand, drawing it, at the same time, away from the other; then pass a strip of plaster around the chord, just where it is in connexion with the testicle, to prevent the testicle escaping out of the scrotum; this being done, the scrotum of the affected side will be applied closely on the testicle, which presents an oval shape; the strips of plaster may then be applied in circular layers along the testicle, until all but the lower part is included. The latter may then be compressed by smaller and shorter strips, placed at right angles with the circular ones, which they thus maintain in their place. The testicle is thus equally compressed, and the strips of plaster should be drawn tolerably tight; the patient will usually complain of some degree of pain during and immediately after the operation.

Far from discouraging the surgeon, this should lead him to believe that the compression is well applied. When, however, the pain has not abated at the end of an hour, the surgeon may usually be assured that no good can result from this treatment; the compression should be discontinued, and antiphlogistic means had recourse to; if the cases of compression be well selected, and the indications followed, it will be necessary to withdraw the plaster in a few hours after, for the size of the testicle will have subsided considerably, and the shell of adhesive plaster will become quite lax: it must be removed, and other strips applied in the same manner as the former, which may require removal in succession." 102.

We confess that this plan, which has been in some vogue on the Continent, is one that we should hesitate to recommend.

Disease of Cowper's Glands.

Our author observes that during the course of gonorrhœa, it not very unfrequently happens that we find an affection of Cowper's glands come on, and this affection is more common than is generally supposed; it may come on imperceptibly, and the patient take no notice of it until there is considerable swelling of the parts. In other instances there is fever, and all the symptoms of abscess; pain is felt in the course of the urethra, followed by fluctuation at one point, and difficulty in making water. M. Ricord considers that the affection commences in Cowper's glands in consequence of the extension of inflammation, and that suppuration results, and has a tendency to make its way outwards.

An abscess, however, may occur in the course of the urethra, in consequence of an abrasion of the mucous membrane, and a limited infiltration of urine follow; the abrasion may heal, and a small abscess will result, situated close to the urethra; such a case it will be impossible to distinguish from inflammation of Cowper's glands, if it occurs in or about the bulb. To the finger this abscess will give the sensation as if it were attached to the urethra by a pedicle.

Passion of French Ladies for the Speculum.

"M. Ricord states that the French female in high life is now so reconciled to the use of the speculum, that he often receives notes requesting his attendance, and, in the postscript, a demand that he will bring his speculum. At the hospital, when M. Ricord took the service in 1830, a revolution broke out, and a strike against the speculum occurred; however, a few days of bread and water quieted this revolt of the harem, and now the women are so convinced of the benefit, that they think no more of its introduction than they do of having a blister dressed. They can, however, appreciate instantly the tact of one surgeon over the other in introducing it." 180.

Certainly this latter is an enviable distinction, and one that a surgeon may be proud to earn. Mr. Acton anticipates the period when the absurd objections now entertained by English ladies will yield, and like the French, they will send a note to the Doctor, with a P. S. (notoriously the portion of a lady's letter in which she speaks her mind) for a speculum. Mr. Acton anticipates this, and that "time will overcome the prejudices which exist" against the instrument. We confess that we are among those who hope that these "prejudices" will always be characteristic of our countrywomen, and that it will be reserved for the most abandoned

class to *request* the introduction of the speculum. Mr. Acton is partial to it, for he gives an engraving of a "speculum chair," which he recommends as ornamental to a library.

The Certificate System.

Rather an amusing insight into the state of society in France is afforded by the different forms of certificate given us (after Ricord) by Mr. Acton. We will quote one as a sample. They are in blank, to be filled up with name and date.

"After carefully examining Mrs. ———, I do not find she is labouring under any syphilitic affection, but is subject to a discharge, which, under the influence of any exciting cause, may become aggravated, and thus transmit the disease to persons having connexion with her." 184.

We have never heard that this sort of pass-port system obtains in this country. Unhappily, the work before us offers other indications of the loose morality of Paris. Some of the recommendations and cases of M. Ricord we forbear to introduce. The following fact is a painful one,

"During the period I performed the duties of Externe, under Professor Velpeau, at La Charité, a mother brought into the hospital a little girl of three years of age, affected with a white swelling and a discharge from the vagina. She stated that the infant was in the constant habit *de s'amuser*, as she called it, and when left alone, repeated continually this mal-practice; she further traced the habit, so early commenced, to a plan which nurses in France have of tickling the genital organs of children who are peevish; this, for the moment, quiets them, but infants repeat these manipulations even at a very early age, as this case proves. On inquiry I found that this was not an isolated case, and leads in after life to most vicious propensities." 27

Before closing this volume we must repeat that it offers a complete account of the views and practice of M. Ricord. Any one who peruses it will see in it the merits and the faults of the French School. The author deserves credit for the manner in which he has executed his task, and he shews that his time has been diligently spent in the French hospitals. But we think that, in his laudable anxiety to enhance the reputation of his preceptor, he fails to do justice to what is known in this country.

THE ANATOMY OF THE ARTERIES OF THE HUMAN BODY, WITH ITS APPLICATIONS TO PATHOLOGY, AND OPERATIVE SURGERY, IN LITHOGRAPHIC DRAWINGS, WITH PRACTICAL COMMENTARIES. By *Richard Quain*, Professor of Anatomy in University College, and Surgeon to University College Hospital. The Delineations by *Joseph MacLise*, Esq. Surgeon. Parts 1 to 6. Price 12s. each. London: Taylor and Walton.

It has been a subject of painful regret to ourselves that no sufficient notice has hitherto been taken in this Journal of the splendid work before us. It reflects high credit, not on the author only but this country, and is, in every way, worthy of both.

The author, in his advertisement, thus acquaints us with the aim and with the plan of the work.

The object, he says, of this publication is to lay before the student and practitioner by means of accurate delineations, and a record of the peculiarities observed in numerous cases, a correct history of the blood-vessels, arranged especially with a view to its bearing on practical surgery.

Mr. Quain informs us in his Preface, that,—

“Several years have elapsed since I became impressed with the belief that the difficulties which have often occurred in the performance of those surgical operations in which the larger arteries are concerned, have arisen in great part from want of sufficient acquaintance with the differences in anatomical disposition to which these vessels are subject—not merely those deviations in the origin of large branches, which are usually named varieties, but other peculiarities of various kinds which are liable to occur, such as those which affect the length, position, or direction of the vessels. Under that impression I was led to observe these circumstances more closely, and finally determined to obtain a record of the condition, whatever it might be, of the more important vessels in a considerable number of cases,—a record to be made especially with a view to points bearing on practical surgery.

With this view, I examined with more or less attention the bodies which were received during a series of years for the study of anatomy into the School of Medicine in University College. These bodies, to the number of 930, were with rare exceptions so inspected with reference to the subject of my inquiries, that anything very unusual could not escape notice: and, in order to insure accuracy, when other occupations allowed, the arteries were carefully examined and their condition noted at the time, attention being always particularly directed to those vessels and to the points in their history which seemed to be of importance in the practice of surgery.

This detailed investigation was continued until the number of cases observed appeared such as would afford grounds for reasonable conclusions both as to the limits of the deviations from the ordinary standard, and as to the relative frequency of their occurrence.

At the same time that the observations thus made were written down, drawings were obtained of all the important peculiarities which presented themselves, and when it was practicable the preparations were preserved.

The varieties in the arrangement of the blood-vessels thus noted grew, as may be supposed, to be very numerous; but instead of difficulties multiplying with the number of observations, it was usually found that as the facts accumulated, the transition from one state to a very different one ceased to be abrupt or without method, for others from time to time interposed which served to link them together.

Originally these observations were intended exclusively for the benefit of my class; but as their number and connexions seemed likely to render them more extensively useful, I resolved to publish them. On examining with a view to publication the materials which I had collected, it became obvious that their utility would be very limited, unless as a part of a full history of the arteries with adequate delineations. In consequence, a series of drawings, showing the arteries according to their usual arrangement, has been prepared, and to these are appended the observations previously alluded to. The work has thus grown under my hands, and has gradually assumed its present form.” 6.

The parts before us are admirable. The sketches are clear, forcible, and to the life. Every operating surgeon should possess them—every professional library and reading room should contain them. It is chiefly by the patronage of Institutions that Mr. Quain can be remunerated, and it would be disgraceful if he were not.

- I.—MEMOIRE SUR LES DEVIATIONS SIMULEES DE LA COLONNE VERTEBRALE ET LES MOYENS DE LES DISTINGUER DES DEVIATIONS PATHOLOGIQUES.—Presente a l'Academie Royale de Medicine. Par le Docteur *Jules Guérin*, Charge du Service des Difformities a l'Hopital des Enfants et Directeur de l'Institut Orthopedique de la Muette.
- II.—MEMOIRE SUR L'EXTENSION SIGMOIDE ET LA FLEXION DANS LE TRAITEMENT DES DEVIATIONS LATERALES DE L'EPINE.—Lu a l'Academie Royale de Medicine.
- III.—MEMOIRE SUR UNE NOUVELLE METHODE DE TRAITEMENT DU TORTICOLIS ANCIEN—Presente a l'Academie Royale des Sciences.
- IV.—MEMOIRE SUR L'ETIOLOGIE GENERALE DES PIEDS-BOTS CON-
GENITAUX.—Lu a l'Academie Royale de Medicine.
- V.—MEMOIRE SUR LES CARACTERES GENERAUX DU RACHITISM.—
Lu a l'Academie Royale des Sciences.
- VI.—THE CAUSE AND TREATMENT OF CURVATURE OF THE SPINE
AND DISEASES OF THE VERTEBRAL COLUMN.—Illustrated with
Cases and Plates. By *E. W. Tuson*, F.R.S., Surgeon to the
Middlesex Hospital, &c.

THE various memoirs by Doctor Guérin, the titles of which are at the head of this article, form a series of treatises on the deformities of the osseous tissue and on the remedial means to be adopted for their cure. To this subject the author has more especially devoted himself of late years, with ample opportunities for observation, and with zeal and talent well calculated to advance our knowledge.

The most voluminous of these memoirs furnishes a curious illustration of the medical history and professional economy of our neighbors, and as a fragment, "pour servir a l'histoire," as they would say themselves, is both instructive and amusing.

Amidst the literary and other extravagances of the medical profession in England, we think it would scarcely enter into the mind of a scientific surgeon, here, to devote nearly 150 closely printed pages, and eight highly finished engravings, to the discussion of the means of detecting a factitious from a real and morbid deformity of the spine.

Dr. Guérin prefaces his memoir in the following characteristic fashion:

"I will give the history of this memoir in a few words—its origin, vicissitudes, the storms it has raised, which preceded and have followed it, finally the effect, moral and scientific, which it has produced. It may be seen that this is no ordinary work, (I speak in reference to the special circumstances which have induced me to write it), but one which is attached to an epoch of my medical career—at once difficult and peculiar in its character."

This little episode of French medical politics and character, in true epic style, brings before us, in tragic order, individual and national customs and prejudices, persecutions, escapes, defeats, triumph and disaster, and winds up

with a splendid peroration on the vast interests, scientific and moral, embodied in the history and involved in the results of a squabble between a medical professor and a charlatan curer of spines never deformed. This squabble, however, which shook into convulsions the Academy of Medicine and occupied the learned judges of the land in two courts of justice, is really too rich a morceau to be passed over without a slight sketch for the amusement of our readers. And, indeed, this is so admirably given by the Doctor himself in the preface above quoted, that it admits of slight improvement at our hands—we shall do little more than translate.

“Some four years ago a man (not a physician) presented to the Royal Academy of Medicine several persons with curvature of the spine which he undertook to cure in the space of a few months. The Academy instituted to watch over the progress of science, and to repress charlatanism, charged a commission composed of the élite of its members to follow the effects of the treatment adopted. After a space of about four months two of the patients passed for cured, and the commission accordingly made its report.”

It chanced, however, that Dr. Guérin was apprized that one of the subjects of cure, a strong and fine girl of twenty, most extraordinarily deformed before submitted to treatment, according to the report of the commission, was particularly well made according to the account of the people among whom she had lived, having previously performed all the duties of an active chambermaid! This circumstance seemed to the Doctor very satisfactorily to explain the rapidity of a cure which he confessed he had up to that time found it difficult to understand. With this new light on the *modus operandi* of the man (not a physician), Dr. Guérin made some further inquiries, and began to examine the plaster casts of the cases treated—attaching himself particularly to that of Jenny Guery (the *femme-de-chambre* in question). An unfortunate attachment, it appears, to all parties.

Fully convinced at last that the lady had never really been deformed—was he openly to declare his conviction to the world, or hold his peace? Difficult question—often no doubt occurring to those who are obstinately bent upon proving the object of their attention perfect. “To have been silent and let things take their course,” says the Doctor, “would have been more prudent, wise, and certainly more safe, than to tell the Academy that its confidence had been abused, and to furnish the proof to that learned body that it had made so ridiculous a mistake as to cut a very sorry figure in the eye of the public,—I chose the latter.” Rash man thus to provoke a respectable body of learned Doctors!

He wrote to the Academy declaring his conviction, resting as it did upon two orders of proof—the one moral, the testimony of those who knew the prior perfection of Jenny Guery's stature; the other scientific. Dr. Guérin thought the Academy would look to the scientific evidence, instead of which it preferred the moral view, the evidence concerning which, as regarded Madlle. Jenny, was particularly contradictory and embarrassing to right-minded men. Dr. Guérin's correspondents every where heard that in her native place Jenny passed for a handsome girl—alert in intellect and perfectly well made—nay, whose “*taille*” was one of the best in the country! On the other hand, her curer did not fail in testimony that the said Jenny

had been cruelly deformed, of which all Paris had been persuaded when she was presented in the first instance, in fact one of the members of the Commission had christened her a "*culle de jatte*."

Long the Assembly, in grave debate, agitated this most complicated question, each party restricting themselves to the moral testimony which, being both black and white, was especially embarrassing. At last the Academy found out that with respect to Jenny there were not sufficient proofs before it that she had simulated the deformity or, consequently, deceived so grave and sagacious a body; and Dr. Guérin discovered that he had forgotten to allow for the little weaknesses and passions of man, even in a learned assembly, and that in the revelations which he had made, he had compromised in their own eyes, their gravity, wisdom, and infallibility; they were not neutral arbitrators and judges but partizans against him. Strange that he should never have read the pithy sentences of his countryman, La Rochefoucault, and better appreciated the influence of man's "*amourpropre*." The Professor, however, hoped to be quit of all further ill consequences of his rashness at the price of this partial check—alas!

"Troubles do never come in single files,
But in battalions ever!"

And Jenny and her friends, inspired by this triumph, now assailed the Professor in a court of justice for defamation of character—and gained their cause. They failed, however, in either tiring or convincing their detractor, and he appealed to the higher tribunal of the *Cour Royale*; at the same time that he once more agitated the subject in the Academy, bringing forward scientific proofs of the absence of all morbid deformity. The plot thus thickened and a double action was carried on. In the first trial the decision of the Academy had been quoted as confirming the propriety of the sentence—but now that the same learned body saw the error of their ways and confessed they had been deceived, it was quoted in the *Cour Royale* as a strong reason for the Doctor's conviction. The first sentence therefore was confirmed, and M. Guérin condemned in costs and fined—as a "*Defamateur*."

Dr. G. at this state made certain discoveries calculated to prove of great utility to all professional writers who trust to be held harmless under the shield of truth—if they would but profit by other people's experience without insisting on paying for it. These discoveries must be classed under the heads of moral and legal facts elicited in this momentous affair.

1. The law does not jest. Dr. Guérin had indulged, he tells us, in certain little pleasantries, and among others in that of following Boileau's example and calling things by their proper names. Not finding any more accurate terra by which to designate a man practising medicine in the market-place without a diploma, than *Charlatan*, he adopted it, and rendered himself decidedly guilty of the crime of abusive language.

2. Since 1819, in France a law exists not sufficiently known: by this law he who publicly imputes to a citizen a reprehensible action, whatever be the proofs, is punishable as a defamer. Now defamation legally is defined to be "any allegation which injuriously affects the honor or consideration of another,"—of course the more true the allegation the more

surely injurious—the more certainly do you merit condemnation. These things and many others Dr. Guérin assures the world his treatise on the nature and treatment of simulated spinal distortion taught him—but, hélas, too late to be useful!

And here endeth this eventful history—thus wound up by the Doctor:—

“From the historical part of my memoir let us turn to its scientific aspect. Persons who have endeavoured to diminish the importance and authority of my researches have sought to reduce its proportions into that of a mere personal discussion. But independent of its value as a work of critical analyses, it embodies new facts in anatomy, physiology, and pathology, which give it a character purely scientific, &c.”

For these facts we refer our readers to the memoir itself, and should they ever feel inclined to call things by their proper names, obviously a very reprehensible practice, or be anxious to learn how to distinguish fictitious from morbid distortions of the spine, we strongly recommend their perusal of Dr. Guérin's Memoirs. It contains useful matter, notwithstanding that its readers may be, like ourselves, tempted to smile at its pleasant admixture of the grave and ludicrous, and of grandiloquent deductions from very Lilliputian facts—telling the oft-told story,

“How mighty contests rise from trivial things!”

We pass on to the other memoirs which are both more scientific in character and of more practical value, and first to the treatise on lateral curvature of the spine. We have also to draw attention to Mr. Tuson's volume on the same subject.

On taking up the latter work we were for some time at a loss to divine for what particular class of readers Mr. T. had designed his observations. Whether for nurses, mothers, students, practitioners, the lay public generally, or, finally, for each and all together. The matter and the style of the first 100 pages seemed but little adapted to any but the two first, and not the most sensible of these. Commencing at the earliest possible causes that might influence the growth and curvative of the spine, Mr. Tuson objects rationally enough to swathing with tight rollers the body of the new born infant, but no ordinary phraseology suffices for the purpose, it is not enough to say that no advantage, but much injury may arise from it. Mr. Tuson startles the nurse or the mother, whichever it may be, into conviction, by declaring it a practice,

“Which, being contrary to the laws of nature. and tending to obstruct her power and molest her laws, stands self-condemned!”

The author, however, improves upon acquaintance, and seems more clearly to address himself to the profession as he advances in his subject. He has evidently paid considerable attention to the subject and enjoyed fair opportunities of observation. The great object of the work to which the author very frequently recurs, would seem to be the necessity for ascertaining the *cause* of any deviation from the natural form in the spine, prior to determining the treatment for its removal. This is a principle so clear and trite that we scarcely should deem its enforcement required by any educated medical man, who to some learning could add a little common sense. Mr. T., however, evidently thinks otherwise; he tells us—

"There are works on affections of the spine, whose authors lay down and recommend *one* general plan of treatment, whatever be the cause of the complaint; whether scrofula, general debility, caries, or a softening of the bone—whether the curvature be lateral, or in any other direction,—even angular projection is not exempted,—but one mode of cure is to be followed." 70.

And again, in reference to the labours of others in the same department, we are told—

"It is only of late years that scientific men—from some strange hallucination—have turned their attention to this disease; but all the treatises hitherto published—however excellent they may be when applied to specific cases—appear to me to partake more or less of theoretical reasoning. A disease presenting itself under so many different features, with the same characteristics, must require a specific treatment, adapted to each form it assumes: a mechanical contrivance, therefore, that would act with advantage in curing a deformity offering certain peculiarities, would have a diametrically opposite effect when it showed itself with other combinations. Hence it follows that *any one plan of treatment for all cases indiscriminately* must be fallacious. This palpable error struck me most forcibly on my first commencing my professional career, and time and observation have contributed to confirm it. I felt there was a large field for investigation,—a wide chasm that might be advantageously filled up."—*Preface*, p. x.

"Various plans have been recommended to remedy curvature of the spine, and the author of each has pertinaciously adhered to his own, treating all cases indiscriminately, and not looking, as should be done, to the cause of the curvature, and whether it be in a lateral or any other direction. Extension, rest, counter-irritation, instruments, pressure, exercise, &c. have each been recommended and used by their own advocates." 74.

This we cannot believe to be a very accurate statement of the practice or state of the profession as regards spinal diseases, and we think does less than justice to it, and to the authors whom he himself quotes.

"But while I thus expose the ignorance of the empiric, let it not be supposed I condemn the works of those scientific men who have devoted their attention to the subject, and to whom the profession and the public are much indebted for useful and scientific observations on the affections and diseases of the spine. I submit the names of Sir B. Brodie, Earl, Shaw, Bradly, Bampffield, Thompson, and others; but I am not aware that these gentlemen have ventured to introduce or adopt any single mode or plan of treatment as applicable to all cases. Sir B. Brodie's observations on caries of the spine are well entitled to the attention of every practitioner. Earl's are scientific, and the means recommended by him useful, mechanical, and ingenious. The work of my departed friend Mr. John Shaw, will be found useful to all those who are desirous of better acquaintance with this subject: his plan of treatment was employed while I held the office of house-surgeon to the Middlesex Hospital, in several cases, with beneficial result. Bradly's observations are worthy of attention. Bampffield's work is interesting and instructive. Thompson's remarks may be read with attention, and his treatment may prove useful and advantageous *in some cases*." 75.

This is dismissing the claims of these gentlemen rather summarily, but yet proves that, as far as the *profession* is concerned, scientific men *have* given their attention to the subject, and that the pressing danger which Mr. Tuson seems to have very constantly before him of medical men treating spinal cases empirically—upon one system, without reference to the great diversity of causes, not less than differences in the nature of the disease resulting, is by no means apparent.

Dr. Guérin's able treatises on this subject shew that spinal diseases and deformities are studied with all the advantages which the present state of our general and professional knowledge afford. He tells us that his memoir is intended to make known a new method of effecting the straightening of lateral deviations of the spine by lateral or sigmoide extension, and by flexion—a mode based upon two new principles which are substituted for two old ones—oblique or perpendicular extension substituted for parallel—and flexion instead of compression. These principles, which he has here first applied to curvatures of the spine, are applicable to the treatment of all articular deformities.

In addition to this, the memoir contains certain general principles from which, in his other treatises, the mechanical treatment to be adopted for other deformities of bone are deduced.

Since experience has shown the insufficiency of medical means and the indispensable necessity of mechanical agents in the treatment of lateral deviations of the spine, a great number of machines have been proposed and adopted—all with a view to produce extension of the spine in its long axis, or in other words parallel, and pressure upon the convex portions of the deformities. This was first attempted by means of portative machinery or corsets resting on the hips—subsequently extension in a horizontal direction was substituted, the patients being placed on variously-contrived couches while the force in opposing senses was applied—and with this view, up to the present, have all the various kinds of extending apparatus been devised. Thus, in two words, the mechanical treatment has been confined to *parallel extensions* and to *lateral pressure*.

Notwithstanding many cases of failure from the indiscriminate and injudicious use of these means, enough benefit has resulted to leave no doubt as to the utility of mechanical treatment.

M. Guérin thus proceeds to explain his mode of mechanical treatment, and the principles on which it is founded.

“What have we in view to accomplish in the treatment of lateral curvatures of the spine in reference to mechanical agents? To straighten a stem curved in its length at one or more points. If this be given as a problem for solution, stripped of all organic circumstances, which only serve to obscure and hide its simplicity, and it be stated simply as a stem curved or bent, and to be made straight, there is no man even of mediocre intelligence who, with merely the benefit of common experience, will not present a solution of this question infinitely more satisfactory than all those hitherto proposed as a means of cure for a curved spine. What would he do in fact? In place of the spine put a flexible stem, of any material which is curved, into his hands—assuredly he would not commence by taking hold of the two ends and pulling in the direction of its length. With each hand he would fix the extremities and press the convexity of the curve against his knee—he would pull perpendicularly on each of the ends and produce a curve in the senses opposed to the only previously existing. He would not be content with stretching it until the first curve disappeared, because he would know by experience that, to obtain a complete and permanent straightening, he must go further, and make a curve in the opposite direction, in order to overcome the force which tends to produce the curve when we limit our efforts to merely bringing it to a straight line

Thus would any one proceed in order to straighten any kind of curve in a flexible stem, and this is what I have sought to reduce to practice for the treatment of curvatures of the spine. The method which I have proposed consists in sub-

stituting artificial curvature in a sense directly opposed to those produced pathologically, so as to give to the vertebral column the form of an S in the reverse direction to that which the deformed curvature presents—in other words, it consists in substituting oblique and perpendicular for parallel extension of the spine, which I shall call the *sigmoid* extension, the mere name sufficing to indicate the object proposed and which, I believe, to be realised in the apparatus I am about to describe."

This apparatus we will not attempt to describe in all its detail, but refer our readers to the memoir itself; suffice it to say that it is constructed with a view to produce at the same time flexion and extension of the spine, thus greatly diminishing the *degree* of extension, otherwise required to conquer the elastic force of the muscular and ligamentous structure, which tends to reproduce the curve when the extension has ceased. The increased extension required when alone employed, more especially when the spine is reduced nearly to its proper line, is followed by many evil consequences—the fibro-cartilaginous, ligamentous, and muscular structures corresponding to the concavity of the curves, are inordinately stretched and weakened, the antero-posterior curves which are natural to a healthy spine, are obliterated, though of great importance to the solidity and natural figure of the trunk.

This, observes Dr. Guérin, is so true that the greater number of persons who leave the institutions where the bed of Wurtzbourg is exclusively employed, are flattened in the back—the shoulder-blades and different regions of the vertebral column being all on the same plane, destroying the natural grace and contour of the figure. A still more grave inconvenience results from a parallel extension upon the spine—separating the vertebræ from each other, in order to obliterate the curvature, has no action or tendency whatever to reduce the superabundant development of one half of the fibro-cartilage and bodies of the vertebræ corresponding to the convexity.

That such is the state of parts Dr. Guérin quotes the opinion of M. Ribes, supported by several pathological specimens, proving the impossibility of obtaining in any very short period a total cure of these lateral curvatures of the spine.

"It is only necessary," says M. Ribes, "to cast the eye upon these preparations to feel convinced that methodical extension, judiciously applied and long continued, can alone re-establish the natural condition of the parts—and, in order to produce this, it is necessary that the means adopted *should press the bodies of the vertebræ the one upon the other, on the convex side of the curvature*, so that, in pressing down on the one side, the compression may be diminished towards the concavity, and the morbidly thickened part of the vertebræ may gradually diminish while the vertebral column acquires its natural position."

This result is not to be obtained by mere parallel extension—that is in the long axis of the spine, and thus we may account for the constant tendencies to speedy reproduction of curvatures even when apparently altogether removed by this kind of extension; the bodies of the vertebræ still remaining depressed on the sides where concavity had existed, below the level of the thickened bodies and fibro-cartilages on the convex.

Dr. Guérin states that extension in some cases is altogether inapplicable and then flexion should be employed, for which the apparatus he describes

is equally adapted. These cases he defines to be those where four curves exist, or several in the same region, or two curves in the dorsal region, or curvatures too near each other in any part of the spine.

In January, 1836, Dr. Guérin commenced the treatment of fourteen cases, all young subjects under the observation of a Commission of the Academy of Medicine. Their report of the result at the end of fourteen months is highly satisfactory.

In this treatise M. Guérin confined himself exclusively to the best means of the mechanical treatment.

Mr. Tuson enters at considerable length into the causes of various curvatures and the general treatment they require. He divides the subject of his work into—1, Diseases of the vertebral column producing curvature and deformity of the chest, trunk and pelvis; 2, Diseases of the column unattended by this result; 3, Injuries of the column and their results. Under the first head he takes care to draw attention to the fact, that deformity of the spine by no means necessarily implies disease in the column, since it may be the result of morbid affections of any other part of the body, as for instance—disease in the hip, knees, ankle, foot, or a shortening of either leg—these cases he terms “secondary lateral curvature,” and the distinction is obviously one of great importance. We do not observe much deviation in the views he advocates from those common to the profession, except in his decided objection to the continued recumbent position; his reasons for a contrary practice are good, and seconded as they are by considerable experience, we have no hesitation in strongly recommending these opinions to the attention of our readers.

“To keep the patient constantly in the recumbent position is wrong, inasmuch as it prevents the muscles from undergoing the slightest degree of action, subjecting the joints not only of the spine, but of the extremities to become weak and stiffened. A physician of considerable eminence mentioned to me, whilst engaged in writing on the present subject, that he had been called professionally to see a patient who had been under the treatment of Dr. Harrison for four years, and who had been kept constantly in the recumbent position during the whole of that period. The consequence was, that the want of muscular action had deprived her of the use of her limbs. When an attempt was made to place her in a sitting posture, the joints were found to be stiff and incapable of flexion. She was doomed, therefore, to remain the rest of her life upon a couch, perfectly helpless and requiring constant assistance.” 78.

“In regard to Dr. Harrison’s plan of keeping his patient constantly in the recumbent posture, the benefits to be derived from it are that the whole spine, and very numerous muscles attached to it, are kept constantly in a state of rest and inaction; that the weight of the trunk does not press upon any of the bones of the spinal column; and that the whole weight of the head and arms is removed from the spine. So far I speak favorably of the recumbent position; but in all cases where the contrary is practicable, I would rather dispense with constant recumbency, and for the following reason, namely, that the general health of the patient is of the utmost importance, and that the functions of life cannot possibly be carried on properly when the patient is constantly lying on the back, and without exercise. Nature being thus unassisted, the muscles which beneficially press against the various viscera and other important organs of the body, and excite them to the performance of the functions of secretion, digestion and sensation, are not brought into action. In many cases the constant recumbent position must of necessity be had recourse to; as when a patient, in consequence of

the rapid increase of affection of the spine, loses the use of the limbs, or where the limbs become so weak and debilitated as to be incapable of motion; and such cases are by no means uncommon." 86.

The author is equally opposed to the late Dr. Harrison's system of treatment as regards pressure.

"Dr. Harrison, during the time of employing extension of the spine, was accustomed to make pressure against the spinous and transverse processes, with an instrument flat at its lower part placed against them, and also against the oblique processes commencing at the upper, and gradually passing down the spine to its lower part: the curve being towards the right, his object was to push the bones towards the left side; and the lower curve being in the opposite direction, he endeavoured to push the bones straight, asking the patient if she did not find the bones yield to the pressure he employed.

There are great objections to this plan of making pressure upon the spine during the time of extension. In the first place, it must be obvious that the spine being pummelled and kneaded for an hour at a time, must run great risk of being injuriously affected, without the probability of gaining ultimate good. Such pressure must on the contrary produce considerable irritation, by bruising the attachments of the muscles; and by causing their fibres to retract, it will only draw the bones out of their places. Whereas, if the muscles are kept in a quiescent state, and free from action, they would prevent the vertebræ from being displaced. The plan of extension is, I am fully persuaded, of the greatest benefit: but it must be lessened by pressure being simultaneously made upon the spine. It may be said that pressure against the muscles will relax their fibres, but then it ought to be made against the belly of the muscle, and not against their attachment to the bones." 82.

The following observation is judicious:—

"Gymnastic exercises are strongly advised by some practitioners, in addition to the use of artificial support, by which means the muscular structure in general will acquire increased power and strength; but if the spinal column be in a weakened or attenuated state, such exercise will, by placing the weight of the various parts of the body upon the spinal column, only increase the curve. If, on the contrary, such exercises be used when the weight of the frame is removed from the spinal column, the greatest benefit will be obtained, as will be hereafter pointed out." 91.

Mr. Tuson has devised a number of exercises which may be performed in the facial or dorsal recumbent position on the couch he is in the habit of using, tending to expand the chest, and improve the tone of the muscular system; he says—

"The muscular system takes an active part in curing or causing affections of the spine to increase; and we must be very mindful in our treatment not to lose sight of this very important fact, for where in some cases the action caused by the contending power of opposite muscles will strengthen and invigorate the surrounding parts, and excite a healthy osseous secretion, so in others the conflicting power of the stronger muscle over its antagonist, will only displace the bone, increase the curve, and produce incalculable mischief." 135.

We pass over the second division of Mr. Tuson's work, wherein he treats of those diseased states of the spine, which are unaccompanied by deformity, to make a few observations on the chapter devoted to injuries of the spine, and certain operations, confining himself to those injuries where the spinal column itself is injured—leaving unnoticed injuries and affections of the spinal marrow, a subject which he justly observes is full of physiological interest.

Mr. Tuson remarks that sometimes the arches of one or more of the vertebræ may be fractured and the bone depressed, so as to cause pressure on the cord, and as these accidents have proved fatal, he thinks it desirable to follow the example of the late Mr. Cline and Mr. Tyrrel, and treat them on the same principle as fractures of the cranium with depression. The cases are not quite analogous—the arch of the spine is deeply covered and considerable violence and disturbance must attend any such operation; the two cases in which this method was attempted were both fatal. We should be inclined to say that under these circumstances, and with the present uncertainty as to the signs of *concussion* of the spinal cord as distinguished from its compression, the operation should not be lightly undertaken nor indiscriminately adopted in every case of paralysis from injury of the spine, otherwise many cases, which now ultimately do well, are likely not only to be unnecessarily subjected to a more or less painful and dangerous operation, but placed under unfavourable circumstances for recovery. “Modern surgery,” which Mr. T. says, “amidst all its improvements has left this accident to take its chance, without lending a helping hand to assist nature in remedying the injury,” may have exercised a very sound discretion which is not only the better part of valour, but of surgery also. The mania of the present day is to meddle, to lend what is called a “helping hand,” which often proves anything but beneficial to the patient.

Mr. Tuson next proceeds to consider the subcutaneous division of the muscles, or their tendons, for the cure of spinal curvature, and here he is somewhat more cautious in his opinion—he says:—

“One fixed rule, however, I may venture to lay down, which is, that the operation must be confined to cases of simple lateral curvature, where the disease is entirely owing to the undue action of muscles, and where the spinal column is not the seat of disease; for it must appear evident, that where the bones of the spine are diseased in any way, the simple division of a set of muscles would only give an ascendant power to their opponents, and produce deformity in another direction. Again, it is not all cases indiscriminately of simple lateral curvature that may be selected as fit subjects for operation; a healthy diathesis is an essential and indispensable requisite; for if there is any constitutional disease, such as scrofula, &c., the use of the knife may be productive of the very worst consequences.” 271.

Two of M. Guérin’s memoirs are devoted to the subcutaneous operations for the division of the muscles—one for confirmed wry-neck and the other for club feet.

In reference to the operation for wry-neck, described in this memoir, the author informs us, that it rests upon two facts of pathological anatomy, which he believes to be new:—

1. In wry-neck the contraction and arrested muscular development are for the most part exclusively limited to one of the two heads or divisions of the sterno-cleido-mastoid muscle, and most frequently the sternal division, which he considers anatomically and physiologically a muscle distinct from the cleido-mastoideus or clavicular division.

2. There is in this deformity, independent of the inclination of the head on the side of the contracted muscle, an inclination in an opposite sense of the cervical column on the dorsal region, which invariably continues after the section of the muscle.

These two facts led him, on the one hand, to simplify the surgical operation by section of the contracted muscular fibres of the sternal portion only, and this by means of a simple puncture through the skin: and on the other, by the invention of a machine, or apparatus, calculated by consecutive treatment to restore the position of the head and remove the cervico-dorsal curvature. The mechanical and consecutive treatment being as indispensable for the attainment of a cure as the division of the contracted muscular fibres by the knife. To effect the former, Dr. G. has invented what he terms an orthopædic couch—into the description of which we will not however enter.

How far Dr. Guérin has the merit of first proposing and performing the subcutaneous operation for these cases of the muscle, and in the majority of cases of the *sternal* division only, it is needless here, at least, to discuss at any length; the improvement, doubtless is most important, and the consecutive mechanical treatment, reduced as it were to a system by Dr. G., is no less obviously an essential element of cure. The methods in practice before the mode indicated by Dr. Guérin were not only unsightly and dangerous in their results, but ineffective.

In 1822, it appears, M. Dupuytren led the way to this improved method of operation, differing only in this, that he passed the point of the bistoury through on the opposite side of the muscle, and sawed through the fibres as it were without dividing the skin above. Stromeyer, later, with a similar view of saving the skin, pinched up a fold of skin parallel with the muscle, and, pushing a bistoury through the base of this fold, divided the muscle from its anterior to its posterior surface, making only small incisions through the skin. Finally, in 1832, Mr. Syme, in Edinburgh, performed a similar operation apparently much in the same manner as that adopted later by Dr. Guérin with a single puncture.

The memoir on congenital club foot contains some interesting researches as to its causes, tending to prove that this deformity results from convulsive muscular contractions in the fœtus, and depend upon an abnormal state of the cerebro-spinal nervous system—producing first, a shortening or contraction of the muscles of the leg or foot; secondly, a certain degree of paralysis; and thirdly, an arrest of all consecutive development, which prevents their proportionate increase with the accompanying enlargement of the bones, and thus during the growth of the skeleton continually increasing the deformity.

We must defer any observations on the memoir devoted to Rickets, and conclude with an assurance to our readers that these treatises of Dr. Guérin's will amply repay perusal.

HINTS FOR INVALIDS ABOUT TO VISIT NAPLES; BEING A SKETCH OF THE MEDICAL TOPOGRAPHY OF THE CITY, AND ALSO AN ACCOUNT OF THE MINERAL WATERS OF THE BAY OF NAPLES &c. By J. C. Cox, M.D. 8vo. pp. 190, Longmans, 1841.

WE apprehend that it is with climates as with Spas—the air of the one, and the waters of the other, being over-estimated by those physicians who reside or practice on the spot. Dr. Cox assures us that this is not the case with him—that he is rigidly impartial, and without the slightest bias or prejudice in favour of the beautiful city and bay of Naples. We acquit him of all intentional embellishment or wilful exaggeration; but when we bear in mind that the Doctor owes his own life, and that of some of his family, to the climate described, we can hardly avoid the conclusion, that *gratitude* has disposed him to look with a favourable eye on the bright side of the picture, and draw a shade over the ruder features of the scene. Dr. Cox, however, is a sensible and intelligent investigator of his subject, and we are inclined to attach much confidence to his statements.

Our author has now resided some years in Southern Italy, and, as we before observed, has derived, together with his family, great benefit from the climate of Naples and vicinity. The superior longevity of the inhabitants of Great Britain, as compared with those of Italy, and, indeed, all parts of the Continent, presented a stumbling block on the very threshold of our author's inquiries. He has got over it in the following ingenious way.

“It may be alleged that the rate of mortality is less in Great Britain than in most other countries; and that *that* country must be the most healthy in which the fewest die. *But the physician has to do, not with the rate, but with the exceptions.*”

The meaning of this is, that if the inhabitants of Great Britain were transplanted to Italy, the rate of mortality would be increased; but that certain constitutions and maladies, forming the exceptions, are benefited by a change from the fogs and rains of England to the brilliant skies of Italy. To this position we see no objection.

The beautiful city of Naples, the ancient Parthenope, is divided into two quarters or climates by the Pizzo-Falcone hill, which extends into the sea, with an ancient castle on its most projecting point. The finest climate is possessed by the division, between Posilipo and the Falcone, stretching about the bay, and facing the south. Here the chief visitors reside, defended from the westerly and easterly winds by a range of hills, on the crest of which is placed the Castle of St. Elmo—the ornament and defence of Naples. This plain, formerly a marsh, is now well drained and fruitful. Naples has a mean temperature of 61° Fahr. and is refreshed by sea and land breezes during the summer months. Fine weather is said to be continuous from April till November, interrupted only by the solstitial and autumnal rains. The temperature is rarely above 86° or 88° at noon in the shade. In winter, the temperature is seldom

below 40° to 44° at night. The following table exhibits the mean average of the thermometer for the several months in the year:—

MONTH.	Mean Temperature.	Number of Rainy Days.	MONTH.	Mean Temperature.	Number of Rainy Days.
January	45°	6	July	76°	3
February	48°	7	August	76°	4
March	52°	5	September	71°	8
April	57°	8	October	68°	7
May	66°	6	November	55°	3
June	70°	none	December	51°	8
Average number of rainy days 65.					
Mean Temperature Fahrenheit 61.					

The Appenines are not covered with snow till the middle of February, from which time till the melting of the snows, Naples is liable to the cold tramontane winds—a condition to which Naples is not alone exposed, since Nice, Genoa, Bologna, Florence, and even Rome itself, share the same scourges. The sirocco is still worse than the tramontane.

“The effect of the Sirocco, even at Naples, is very oppressive to the nervous system during the heat of the summer, although it is not felt there nearly so severely as at Palermo. All nature seems to suffer from its influence, the air is still, the sea calm and leaden, the vine and the fig tree hang their leaves, animals are languid and oppressed, and the whole atmosphere is in a highly electric state. How changed are the sensations, when this electric condition is altered! the lightning flashes from mountain to mountain; Vesuvius, that mighty agent of electric influence, appears to be the centre of its action: the thunder rolls in terrific peals, increased in a tenfold degree by reverberation; then falls the rain, and all nature is refreshed; the depression of the nervous system ceases, and is succeeded by a delicious state of excitement and exhilaration.

These storms have a great and painful effect upon delicate and susceptible nervous subjects, but the change of weather removes the irritation or depression, and restores the *bien etre*.” 16.

While writing these lines we were visited by a nobleman, who, with his lady, had resided in Naples during the last Winter, 1840-1. They both declared, that no earthly consideration would induce them to encounter gain the siroccos and tramontanes of Naples. The Gentleman had gone to Italy for his health and returned worse than when he left home.

“The soil of Naples is of a light sandy character, and resting upon a porous Tufa, through which water readily percolates. Hence the effects of rain quickly passes away, and as soon as the storm subsides, the invalid may with safety walk in the Villa Reale. Wells are easily made in this tufous rock, and water is found very near the surface; but it is brackish and unwholesome, producing diarrhoea and dysentery in strangers.” 19.

Care should be taken by foreigners that water is procured from the fountains, and not from the wells of Naples. The markets are well supplied with wholesome food at a moderate price.

“The effect of the neighborhood of a volcano on the human frame is very little observed or understood. That a very powerful electric action is going on in

Vesuvius, and other volcanos, no one can doubt. The constant change that takes place in the chemical relation of bodies acted on by it, must necessarily cause the evolution of electricity to a prodigious extent. These phenomena become sometimes cognizable to our senses; clouds are formed over the cone, or attracted to its sides, from which they are awhile suspended, and then are detached and repelled. Sometimes dark volumes of cloud collect over the horizon, while the thunder pealing in the distance indicates the rapid approach of storm. Attracted by the mountain, the lightning flashes down the crater, while the fearful rolling of the clouds encircling it reverberates in oft repeated echoes from its sides. A calm succeeds, and all is dispersed. What is this but the electric agency of the mountain! The effect on some susceptible and nervous subjects is very striking, causing headache, general nervous pains, great irritability of the system, sleeplessness, and an almost irrepressible degree of excitement. The influence of so powerful an electric agent in such cases, is manifestly injurious." 24.

The highly stimulatory air of Naples renders it a precarious, not to say dangerous, residence for people of irritable temperament. The city itself is not subject to malaria, but many parts of the neighborhood, as Averno, Agnano, and Fusaro, are very insalubrious, as is the whole plain west of Posilippo, and the country around Pozzuoli, Baiæ, and Cuma. The population of Naples is 380,000, the deaths one in thirty.

Dr. Cox, in his third chapter, takes up the question—"Is Naples a good Winter residence?" The months of September, October, November, December, and January, are stated by our author to be "beautiful, and of a temperature very favourable for an invalid." During these months, exercise may be taken in the exploration of the classic environs of this ancient capital. The months of February and March may, he thinks, be passed without danger, if common precautions are taken. During these months, the invalid should restrict his rides to the Riviera di Chiaja, the shores of the bay of Baiæ, or the Strada Nuovo; return home by four o'clock, and shun evening assemblies. Great attention to dress is necessary.

"With moderate precaution then, the winter, if it may be so called, may be passed without inconvenience or danger; and during this season, Naples offers advantages as great, or greater than any city on the Continent. Rome has no walks so well defended as the Villa Reale; one side of the street often glowing with the heat of summer, while the other is cold and damp as winter. Florence is the least eligible of all places for the invalid in winter, though lovely and delightful in spring and autumn. Nice has the Maestrale, which is almost irrespirable. Pisa, perhaps, along the Lung Arno, is the most defended of any place; but, if the patient extend his walk beyond this limit, he is stricken with the cold blast; and in the *agréments* of society both of Rome and Naples, it is very deficient." 31.

The Museo Bourbonico offers a good winter lounge; but it is to "be visited only with thick shoes, woollen socks, and a warm cloak." "Naples is not a desirable residence during July and August, excepting on the hill of the Vomero, or at Capo di Monte, above the city." The heat of the atmosphere reflected from the lava in the streets is excessive, and much more difficult to bear than that of the East and West Indies. Castellamare is then the refuge from Naples.

To the question—"What are the diseases benefited by the climate of Naples?"—Dr. Cox very properly answers—"Certainly not consumption in its latter stage."

"But there are many forms of bronchial phthisis in which the air of Italy effects great relief, and even removes the disease. Where severe bronchitis has existed, succeeded by continued cough, with suspicious expectoration, tendency to hectic fever, but with the chest tolerably free on percussion; mucous rattle with pectoriloquy, and no emaciation, in such cases the air of Italy often effects wonders.

In the winter's cough of old persons, with great bronchial irritation, the effect of the air of Naples is also most beneficial.

In cases of hæmoptœ, where has pre-existed irritable mucous membrane, only with slight hæmorrhage from the lungs or throat, and emaciation, such cases, indeed, as have been treated for consumption with severe and depressing remedies, the air of Naples is most specific. In cases of hæmoptœ with tubercles, or in hæmoptœ of an active kind, the air is too stimulating to effect more than a transient benefit.

Where there has been reason to fear incipient tubercular disease, manifested by slight hacking cough, with dullness on percussion over some part of the chest, tested by auscultation, and the general health delicate and languid, in such cases the pure marine air of Naples often dissipates the bad symptoms, and restores the health.

In those persons who suffer from bronchial irritation, associated with disordered health, from residence in hot climates, with biliary obstruction, and yellowness of the skin, Naples is a most desirable winter's residence; where the mineral waters of Castellamare are at least equal to those of Cheltenham, or even superior to them.

In some cases of humoral asthma it is very useful; while in other form of asthma the atmosphere is objectionable, and the air of Rome is more salutary.

In dyspeptic cases, of various grades and forms, Naples is usually beneficial; as also in hysteria, and hypochondriasis, with nervous debility, and depression of spirits; but when the latter symptom occurs in full and plethoric habits, its climate is too stimulating.

In many cases of neuralgia, especially those of rheumatic origin, the uniform temperature and tonic atmosphere of Naples in summer, are exceedingly useful. A lady who suffered severely from the tic douloureux, was quite free from it, while she remained there.

In children suffering from scrofula, in whom the climate of England is constantly predisposing them to tracheal, or pulmonary inflammation, having enlarged tonsils, and irritable lungs, with a tendency to obstruction of the mesenteric glands, and general strumous predisposition, the dry marine and electro-tonic atmosphere of Naples acts as a charm." 40.

Our author thinks that the air of Naples is too stimulant in many cases of gout—that of Rome is preferable. The baths of Ischia are beneficial in many cases of rheumatism.

"The constant influence of a climate so stimulating as that of Naples, tends greatly to increase the general irritability of the system. To those who come only as occasional visitors this is less obvious; but, after living two or three years there, it becomes very evident. Our countrymen pursue their usual mode of living, instead of adopting the habits of the country in which they reside: they take a large proportion of animal food, and drink the strongest wines, in their accustomed quantity; hence, after being a few months exposed to the climate on this uncongenial diet, they are frequently attacked with fever, and sometimes with phrenitis. It is perhaps preferable to adopt, in some degree, the customs of the inhabitants of the countries in which we reside; and, in this instance, to take a larger quantity of vegetable, and less of animal food, and to reduce the quantity of stimulant." 43.

The foregoing observations of our author, though probably a little tinged in favour of his darling Italy, are, upon the whole, judicious; and are worthy of attention on this side of the channel.

MINERAL WATERS.

Naples and its vicinity present some important spas. Those in Naples are the Acqua Solfurea di Santa Lucia, and Acqua Ferrata di Pizzo-Falcone. The former is a simple sulphur water, analogous to that of Moffat, of limpid sparkling appearance, containing sulphuretted hydrogen gas. It is frequented in the months of June, July, and August. The Acqua Ferrata rises at the bottom of a cavern, brisk, and sparkling, decidedly chalybeate in taste, and a good deal resembling the water of Tunbridge, but containing much more carbonic acid. The medium dose is three pints, taken in the morning fasting, with intervals of exercise. Its reputation is very extensive in Italy.

The Acqua Bagnuoli rises on the shore of the bay of Baiæ, two miles from Naples, beyond the Grotto of Posillippo. It contains 38 grains of saline matters in the pint—chiefly carbonate and muriate of soda, and has a temperature of 107°. It is chiefly used in baths; but is also taken internally.

A most powerful astringent water springs up in the crater of Solfaterra. It is of a harsh styptic taste, and exceedingly astringent. It is used by the poor of the neighbourhood in leucorrhœa, blennorrhœa, hemorrhoids, passive hæmorrhages, dysentery, &c. The pint contains 21 grains of alum, and five of sulphate of iron, besides many other ingredients!

Near Pozzuoli there is a spring nearly resembling the waters of Weisbaden, "*which are red and stain the skin*" a fact that we have never before observed, though we have often dipped into the waters of the Kockbrunnen.

Our author gives an account of the mineral waters of Pozzuoli, where one of them is situated in the ancient temple of Serapis. The thermal springs here shew a temperature of 106°—in colour transparent—taste slightly saline—odourless. They contain 29 grains of saline matters in the pint—11 of which are carbonate of soda—2 carb. magnesia—4½ sulphate of soda—9 muriate of soda—half a grain of carbonate of iron. They are considered analogous to the waters of Teplitz; but this is a great mistake, for the Teplitz waters contain only five grains in the pint, two or three of which are carbonate of soda. The cold springs of Serapis contain about 45 grains in the pint, 24 of which are muriate of soda—ten of carbonate of soda. They are represented as analogous to the waters of Ems.

Still farther on the road to Baiæ, beyond the Lucrine lake, are the baths of Nero, issuing from a cavern on the side of a hill, something like Pfeffers in the country of the Grisons. The cavern is filled with steam and the source is at a temperature of 180°—considerably higher than the Sprudel, at Carlsbad. The cavern itself is almost too hot to bear, producing quick and copious perspiration.

These are the principal mineral waters which exist in Naples and its neighbourhood. In this short circuit are found waters of different composition, sulphurous, chalybeate, aluminous, saline, alkaline, and acidulous of temperatures varying from 60° to 180° of Fahrenheit. These varied springs are found in a country of the most picturesque character, of a climate exceedingly delicious, and in situations full of classic and scientific interest." 62.

ISCHIA.

This is one of the most interesting of the Mediterranean Islands, whether we regard the beauty of the scenery, the softness of the climate, the fertility of the soil, or its geological structure. Its thermal waters are of great variety in temperature and composition, abounding in saline materials and gaseous impregnations. The island is 20 miles South West of Naples, ten miles from Misenum, and presents the appearance of a conical mountain rising out of the sea 2450 feet. It is like a garden covered with vines, and tempered by the sea. It bears the marks of an extinct volcano, the last eruption of which occurred more than 500 years ago. Hot springs exist here, of various temperatures, up to more than 200° of Fahrenheit. Hot vapour also rises in various places from the earth. The sands in different parts of the coast are almost too hot for the hand—even in the sea, where bathing is practised. The island presents great facilities for sea-bathing. The most important spring on the island is *Gurgitello*, in the valley of Ombrasco, and furnishes water in abundance.

"There is a large bath-room, containing seventy-six baths, of which ten are fitted up for applying warm douches to any part of the body; and also a capacious sudatorium, or vapor bath, which is not, however, completed. There are twenty-one private baths, moderately well kept." 83.

The water is clear to the sight, unctuous to the touch, and rather nauseous and saline to the taste. It contains abundance of carbonic acid gas. Mud-baths are established here, at a temperature of 128°, consisting of sediment, carbonate of lime, and other earthy matters. Each pint of this spring which shews a temperature of 153°, contains 40 grains of saline matters, of which 20 are common salt, 18 carbonate of soda, the other two being made up of various salts, with a mere trace of iron. It is considered analogous to Carlsbad, though the latter contains 20 grains of sulphate of soda, and the former none. The Carlsbad waters shew ten grains of carbonate of lime, whereas those of Gurgitello contain little more than half a grain.

"The Acqua Gurgitello is administered both internally and externally. Invalids usually take two or three pints in the morning, with intervals of half an hour between each glass, which are best employed in exercise. The baths must be used under the direction of one of the physicians of the island, who are best acquainted with the peculiar effects of the course. As is common during the employment of mineral waters of this powerful character, a certain degree of constitutional change is produced in a shorter or longer period, which must be watched and carefully regulated; although it is rarely so great as to require more than a partial suspension of their use. This effect ordinarily precedes, and is commonly attended by, some alleviation of the malady; hence it is probably produced by the absorption of the mineral water into the system. It is better

to take two courses of the baths, of four or five weeks each, leaving an interval of ten or fifteen days for the invalid to recruit his strength." 87.

This "BAD-STURM," we apprehend, has been too often the effect of inattention to the bowels of the spa-bibbers, rather than to a salutary operation of the waters. If it be a *salutary* crisis, it surely ought not to be checked—if not, it ought to be prevented. We leave the Spa Doctors to choose which horn of the dilemma they may prefer.

"The waters of Gurgitello have received ample testimony of their efficacy in various diseases; in gunshot wounds; in fistula; in rheumatic affections; in the sequelæ of gout; in old ulcers; in uterine diseases, as dysmenorrhea, amenorrhea, irritable uterus, and sterility consequent on that state; in paralysis, especially as the result of fever; in glandular and other scrofulous diseases; in dropsical effusions, arising from exposure to cold or humidity; in chronic peritonitis, and other chronic inflammations; in contractions of the limbs; visceral obstructions, as of the liver, from living in hot climates; and of the spleen, or pancreas, the result of intermittent fever; in obstruction of the mesenteric glands; in irritable bladder; and nephritic disorders; in repelled eruptions; in pains of the bones, and other syphilitic affections, or the consequences of mercurialization; in old Indians who have been injured by climate and excesses, in whom the effects of the climate of England are often prejudicial; in the man of dissipation, whose constitution has been debilitated and impaired by indulgence; in all these cases, the baths of Gurgitello, and the beautiful atmosphere, and tranquil seclusion of Ischia, are most strikingly beneficial. But there are neither gaming tables nor balls; the short period of sojourn there is devoted solely to the recovery of health; and those who have other objects, may drink the water of Baden-Baden or Weisbaden." 90.

The Acqua dell' Occhio "is smooth and agreeable to the skin, and has an exceedingly pleasant effect upon the surface, similar to the waters of Langen-Schwalbach." Here the worthy doctor has made a great mistake. Langen Schwalbach is a strong chalybeate, corrugating instead of smoothing the skin. The waters which bear any analogy to those of Occhio, are *Schlangenbad*.

We must pass over at least a dozen of other mineral waters springing out of the soil, or rather the lava of Ischia.

"In various parts of the island of Ischia are fumaroles, which are apertures in the soil, from which hot air or vapor is emitted. In certain places these are made subservient to medical purposes; small buildings are erected over the fumarole, and earthen pipes so arranged as to conduct the vapor to different parts of the body. These stufe, as they are termed, constitute most valuable natural vapor, or hot air baths, which are applicable to various disorders. The vapor is not however in any degree medicated, but is simply the vapor of water, as the condensed fluid clearly shews. Nor is the hot air medicated with any particular gas, or volatile body, but is simply atmospheric air heated to a given point. The vapor is emitted at a temperature of from 130° to 140° of Fahrenheit; but the quantity may be modified so as to adapt the temperature of the room to the malady and the feelings of the patient." 130.

"How wonderful then, and how numerous are the medical resources of this extraordinary country. Surely no spot of fifteen miles in circumference ever afforded so vast a series of interesting phenomena. The Ischiote girl boils her vegetable meal in a stream, hot at its source; and, in the heating of it, a fire is employed, compared with which, that which burns for the preparation of the grandest city entertainment is but as a spark. The vine dresser, returning in the

evening from his toil in the southern sun, cuts a trench with his hoe in the sand on the sea shore; in a moment it is filled with a hot and mineralised water, in which he bathes his feet, swoln and tender from the rugged stones and scorching heat to which they have been all day exposed, bare and unprotected. He sits on the ground; and, while enjoying his luxurious pediluvium, he carols his airs, with all the liveliness and gaiety so characteristic of the Ischiote peasantry; and after a quarter of an hour's bath, he pursues his way home, refreshed and recruited. The fire which warms his foot-bath is the same as that which kindles Vesuvius, and which bursts not in Ischia, only because it has its exit elsewhere. The matron needs no other fuel to heat the water in which she washes the linen of her family, Nature has supplied her with an inexhaustible abundance, at a temperature hot as her hands can bear, and ready charged with alkaline ley from the bowels of the earth." 136.

CASTELLAMARE.

At the eastern corner of the bay of Naples, and at the base of an Apennine-ridge, lies CASTELLAMARE—the Ramsgate of Naples, containing 24,000 inhabitants. It was overwhelmed with lava and ashes from Vesuvius in 79, when Pompeii and Herculaneum were buried. Though the town is built on the level of the sea, yet numerous villas are scattered up the neighbouring acclivities for the accommodation of visitors. The temperature of the air here is eight degrees lower than at Naples in the day, and ten or twelve at night. There is no malaria around Castellamare.

The mineral waters of Castellamare are numerous and various. They rise from the limestone rock at the foot of Monte Gauro, and have a temperature of 65°.

Some of them are sulphureous, and most of them chalybeates—almost all combined with salines—the proportions of which Dr. Cox gives in separate tables. Thus, the *acqua solfurea del' muraglione* contains 70½ grains of solid matters, of which 42 grains are muriate of soda—6 bi-carbonate of soda—2 carb. magnesia—2 carb. lime—4 sulphate of soda—5 muriate of lime—3 muriat. magnesia, with some minor materials, including traces of iron.

"The properties of this mineral water are very important. In obstructions of the viscera, of the liver, spleen, pancreas, or mesenteric glands, in obstinate constipation, in hæmorrhoidal affections, in all diseases of plethora, in apoplectic diathesis, in epileptic tendencies, in obesity, in all those cases this water is often exceedingly valuable; and also in cutaneous diseases, in suppressed eruptions, in chronic psora, used both externally and internally, it is very beneficial. Its action on the bowels, in clearing out the intestinal canal, is prompt and efficacious. When taken in moderate doses for some time, it unloads the portal system and produces a feeling of lightness and of health. As, however, its action is often considerable, producing very profuse evacuations, it should be used with caution, and not in great quantities, excepting under proper direction. It is beneficial in gouty cases of a tonic character, but it is not proper in atonic gout, when the patient is much debilitated. The power of this water in some cases of dropsical accumulation is very striking; the discharge of large quantities of liquid evacuations, and great diuretic effect, fulfil two very obvious indications in these disorders, and have the happiest results, especially being combined with a pure and tonic atmosphere. It is peculiarly celebrated for relieving obesity, to which the Italians are much disposed from their indolent and sedentary habits, doubtless

induced by climate, and which is especially observable in females. There are few mineral waters so rich in saline constituents as the two *Acqua del Muraglione*, and scarcely any in which the medical effects are more decidedly useful, when properly administered;" 173.

Dr. Cox concludes thus:—

"We have now given a rapid sketch of the mineral waters of Castellamare, and have shewn that they are analogous and equal to the most celebrated, waters of Spa, Pyrmont, Seltzer, Tunbridge, Leamington, Kissingen, Cheltenham, Harrogate, Schwalbach, Ems, and Tœplitz; that they are in many instances superior, as being richer in saline ingredients, and that they are in abundant quantity and occurring in a most lovely climate. It has also been shewn that at Ischia, and at Pozzuoli, thermal springs in great profusion and of the highest character abound, in strict analogy, both in temperature and composition, to the distinguished baths in Germany, Carlsbad, Wiesbaden, Baden-baden, Wildbad, and Gastein; and that there are others which are of very rare and important chemical composition." 176

If the above representation be correct, and we have no reason to doubt its accuracy, a new field is open to our spa-goers, many of whom would prefer the beautiful shores of Italy in the Summer to a long journey over the Alps from Italy, to the spas of Germany. It is on this account that we have given a fuller review of this volume than we otherwise would have done, in order that medical men in this country may be able to communicate important information to such of their patients as are proceeding to Italy for their health. The volume itself may be safely recommended to the invalid, as a topographical as well as medical guide to Naples and its vicinity.

RESEARCHES ON OPERATIVE MIDWIFERY &c., with Plates. By Fleetwood Churchill, M.D. Dublin, 1841, pp. 360.

THE present work of Dr. Churchill contains seven essays upon Operative Midwifery, one upon the *Funis Umbilicalis*, and a Report of the Dublin Western Lying-in Hospital: to these are appended a pretty copious midwifery bibliography, and plates of the various obstetrical instruments.

Midwifery, in its transition from an art to a science, has had to encounter many discouragements in this country. First, its very name, "man-midwifery," is a rude jargon in sound, and derogatory in its etymology. Then, in the place of assisting in elevating the character and position of its professors, a portion of the profession has by its influence and conduct contributed to a contrary result; it is only at the present day, (among other evidences of a commencing, but tardy, appreciation of their true position and interest) that the College of Physicians has rescinded the prohibition of their Fellows to practise as accoucheurs. Add to all this, the utter want of tests as to proficiency on the part of those who undertake its responsible duties, which may, indeed, be legally assumed by

any old wife or chemist's apprentice. Surely it is time to consider whether we shall continue to deliver up to any *ignoramus*, who may have the hardihood to undertake them, the treatment of some of the most fearful emergencies to which the fairest portion of the creation are liable. Still, in spite of all these obstacles, midwifery has flourished in this country; and we can with equal pride, point to practical results, and to the list of distinguished men who have practised it.

Necessarily much of the first portion of this book is statistical, and we quite agree with Dr. Churchill in the following passage:—"I do not wish to overrate the value of statistics, at the utmost they only afford an approximation to the truth, owing to the numerous drawbacks from their exactness—but, nevertheless, I cannot doubt that they are of considerable value, and are, at least available in pointing out the relative importance of each operation." Medical statistics have been as much overrated on the one hand, as they have been inefficiently appreciated on the other. Unquestionably, they are open to numerous fallacies, and the *cateris paribus* is of difficult attainment. But if in any one branch of the profession they are likely to prove useful, it is in the obstetrical; as in it the whole facts of the case are more easily brought into view, and hence are susceptible of a more accurate comparison and generalization.

I. INDUCTION OF PREMATURE LABOUR.

This, one of the greatest improvements in modern midwifery, has been received in a very different manner in our own country and in France. Not rashly introduced by our predecessors among the allowable operations, but received after calm deliberation, it has since obtained the sanction and approval of almost every name of note among us. The reason is plain, the cavils and sophisms of divinity doctors entered not into the deliberations, but the dictate of common sense prevailed. Our neighbours, on the contrary, cramped by the mandates of the Sorbonne, and permitting themselves to become involved amid the mazes of priestly casuistry, have turned with horror from the idea of interrupting Nature's operations, and calmly proceeded to the performance of the alternative (with them)—the Cæsarian section.

The attention of practitioners was first drawn to this operation by observing accidental premature labour prove, in some cases the means of preservation of the life of a child, which owing to the degree of pelvic distortion present could never have been born alive or unmutillated at the full period. By the artificial induction of this process then at a viable period of the child's existence, a chance would seem to offer itself for its preservation, while the mother would be saved the horrors and dangers of the operation of craniotomy. The operation, then, in its conception was most plausible, and in its results has proved most satisfactory. From among the great number of cases now referred to by Dr. Churchill, he finds that more than one half the children were saved, and thus, at all events, giving them the same chance of living possessed by seven months' children; while again in regard to the mother, her life is placed in much less peril than it is in those cases which, left to the full time, necessitate

the operation for lessening the size of the fœtal head. Thus, out of 161 cases but 8 mothers died, and 5 of these from causes unconnected with parturition.

In reference to the *comparative utility* of the operation, Dr. Churchill has the following passage.

"It is peculiar to midwifery operations, that they form ascending series, increasing in gravity from the simplest to the most severe—no two being equal; and therefore, in considering the suitability or practicability of any one, we do so with the knowledge that, if the one we prefer does not succeed, we must have recourse to another more severe and more dangerous. An example will make my meaning clear. If, in any given case, we attempt to deliver with the forceps, but are not able to succeed, we must subsequently have recourse to the perforator; there is no other method, of *only equal* severity with the forceps, which we can try. Or again, if craniotomy and eversion will not render the transit of the child possible, we have no resource but symphyseotomy or Cæsarean section.

Thus, the *alternative*, of any operation in midwifery is not one of *less*, or even of *equal* danger, but necessarily one of a *more serious nature*, and consequently we cannot estimate the utility of any obstetric operation fairly, if we consider it by itself; just appreciation involves a due estimate of its alternatives." 12.

Applying these remarks to the cases in question, he states, that by the use of the perforator about one in five of the mothers perish. By the Cæsarean section 1 in $2\frac{1}{2}$ mothers, and 1 in $3\frac{1}{2}$ children are lost, and by symphyseotomy one third of the mothers have been lost (those recovering even, often continuing great sufferers), and only one half the children were saved. "If then, to the *absolute* advantages of the operation proposed, be added the *comparative* gain from avoiding these terrible *alternative* operations, we may form a tolerably correct estimate of the *utility* of the induction of premature labor."

In considering the cases to which this operation is applicable, the ascertaining the relative sizes of the pelvis, and the fœtal head in its progressive development, is of importance. Dr. Churchill presents tables of these.

"It will at once be observed," he says, that there are two measurements of the pelvis which limit the operation: if the pelvis exceed the greater measurement, the operation is uncalled for; and if less than the least, it will not succeed in saving the child. The smallest of these diameters appears to be about $2\frac{1}{2}$ inc., and the greater $3\frac{1}{4}$. If the pelvis, in its sacro-pubic diameter, be less than the former, a '*viable*' child will not pass, and it is generally admitted that a living child may be propelled through a pelvis whose antero-posterior diameter is $3\frac{1}{2}$ inches." 16.

Other cases, besides that of a deformed pelvis, may demand and justify the induction of premature labor, as exostosis, or fibrous tumors of the pelvis, as also when the uterus itself is the seat of fibrous tumors; which during the latter months of pregnancy, take on, as described by Ashwell, a more active state of diseased action, often terminating in the death of the mother.

Of another class of cases, in which the saving the child's life is out of the question, Dr. Churchill observes;—

"But there are cases in which the distortion is so great as to render the passage of a seven month's child impossible, and others still worse, where no reduction of the child's bulk will enable it to pass. I do not see why abortion should not be

induced at an early period in such cases. The life of the child must inevitably be sacrificed, and the safety of the mother alone regarded; and surely, after the calculations I have adduced, it cannot be pretended that Cæsarean section, the *alternative* in these cases, offers such a chance to the mother and child as would justify our preferring it." 20.

We agree with the author, that the objection offered to this suggestion, that it would be "opening a wide door to the abuse of this operation," is futile; the fear of the operation being perverted to improper cases or for improper purposes, must not deter us from having recourse to it in others, in which its use is clearly justifiable. Moreover, no medical man should, *under any circumstances whatever*, perform it without consulting a brother practitioner. The induction of premature labour has been recommended in various of the diseases of pregnancy, when these have arrived at the point of threatening the patient's life, such as vomiting, convulsions, hæmorrhages, &c.

Five different methods of effecting this operation have been recommended, viz.—1. Abdominal friction, warm baths, &c.; these are rarely of any utility. 2. The separation of the membranes for two or three inches around the os uteri; this plan, advocated by Hamilton and Conquest, is supposed by them and others to be safer for the infant, than when the membranes are punctured. 3. The puncturing the membranes is a more certain mode of proceeding than the former; it was employed by Dr. F. Ramsbotham in 36 cases, and of these 21 children were born alive. 4. The dilation of the os uteri by means of a piece of sponge placed within it, and maintained there by a plug in the vagina. This plan, proposed by Brünnighausen and Klugè, is much approved of by Velpeau, although not deemed more certain by some authors than rupturing the membranes. 6. Ergot of rye has been of late extensively employed, but more children have been lost when it has been had recourse to, than when the other means have been employed.

Although instances are on record of children proving viable prior to the 7th month, yet that is the earliest period we must calculate upon in practice; and, to insure the attainment of this period, the author recommends we should, in estimating the probable age of the fœtus, "allow an additional fortnight, to rectify any error in the calculation of the period of pregnancy." A nurse with small nipples should be at hand to furnish nourishment to the child.

According to Dr. Merriman's statement, preternatural presentations occur as often as 17 times in 78 cases of premature labour: he suggests, that, supposing such should be detected, it would be better to wait a few days, in the hopes of a spontaneous rectification taking place. But the author agrees with the objections of Hamilton and Dewees to this practice, grounded upon the great difficulty of ascertaining with certainty, at this early period of pregnancy, what part really presents, upon the greater ease with which the child is turned in the inverse proportion to its weight, and upon the great doubt which must exist as to the spontaneous alteration of the position of the child in a few days.

The next six essays, although they comprise the greater portion of the book, will not occupy us long. The author in these, has given a very good historical account of the various operations in midwifery, but has

added little of personal or practical remarks that we can present to the reader.

II. VERSION OR TURNING.

"Thus we see that the records of English practice yield 39,539 cases, and 147 cases of version—or about 1 in 269; French practice, 37,479 cases, and 400 cases of version—or about 1 in 93½; and German practice, 21,516 cases, and 337 cases of version—or 1 in 63½. The whole number of cases is 98,534, and of version, 884—or about 1 in 111½. It is not easy to make out a satisfactory table, shewing the dangers of the operation to the mother and child, from the want of details. Many writers do not mention whether any of the mothers died, and some omit the result as regards the child. I cannot forbear expressing my estimation of the minuteness and accuracy of Dr. Collins's statements, and the excellence of the tabular views he has given. In the following table (we have not space for it) I have taken all the numbers upon which I could depend, and though the list is not extensive, I believe that the average mortality will be found pretty correct. Thus, in 169 cases, 11 mothers died, or 1 in 15. I do not give this result as the exact mortality of the operation, because it is evident that the deaths in some cases may have been owing to the cause which demanded the operation—as in placenta prævia; but as we find that even in several of these cases, the fatal termination was evidently more owing to the operation than to the hæmorrhage, I am inclined to think the calculation not very far from the truth. However, any erroneous inference from these statistics, will be guarded against by the recollection of the various and serious accidents which require the operation.

In 542 cases, where the result to the child is detailed, 182 children were lost, or rather less than 1 in 3. To a certain extent the same observations apply to this calculation of the mortality amongst the infants, and similar allowance must be made. One in four is stated as the mortality in footling cases, which must evidently be below the proper estimate of version cases." 52.

The objects of version or turning, are either "to place the head in a more favorable relation to the pelvis, or to substitute the head for some other presentation" (cephalic version): or, "to substitute the inferior extremities for some other less favourable presentation" (podalic version). As to *cephalic version*, much difference of opinion exists as to the eligibility and practicability of its performance. The rectification of malposition of the head by means of the fingers is well known to be often practicable at an early stage of labour; but the substitution of the head for other presenting parts is a matter of far greater difficulty. Velpeau, however, describes it as very possible; and Dr. Churchill says, that the cases in which it can be employed may be divided into two classes.

"First—where the pelvis is of sufficient size, and nothing but the *malposition* of the child's head calls for interference;—2nd, in certain *malpresentations*, such as the neck or shoulder, and perhaps in a few arm cases, if the uterus be not strongly contracted, and especially if the waters have not escaped. It is evidently not calculated for any case where prompt delivery is necessary." 56.

After describing the ordinary mode of rectifying the position of the head, the author thus continues.

"Wigand has stated that it is possible, before the waters have escaped, to change the position of the head, or even the presentation, by external abdominal manipulations. Velpeau confirms this from his own experience, and something similar is stated by Sennert and Martins. Riecke has also related several such

cases. Dr. Burns in a note to his 9th edition, states, that 'Mr. Buchanan, of Hull, informs me that he succeeded in one instance lately, where the left side of the breast of the fœtus lay diagonally over the pelvis, with the head forward, in bringing the head right, by making the patient kneel and raise the breech, whilst the shoulders were brought as low as possible. The water had not been discharged. The situation of the head, when it came down, was made more favourable by the finger. The child was alive.' 63.

In regard to the operation of turning, properly so called, the author contributes no additional information, his account being avowedly compiled from the various standard works on the subject. He makes no allusion whatever, to the interesting subject of the spontaneous evolution of the fœtus in transverse presentations.

III. INSTRUMENTAL LABOUR.

Two classes of cases may require the aid of instruments, namely, the one arising from a deficiency of room in the pelvic cavity, or the too great size of the fœtal head; and the other from defective uterine energy. The first class of cases, although presenting, frequently, difficulties in the decision of the course to be adopted regarding them, are more easily determined upon than the latter.

"But if we turn to the class of cases where the abnormal deviation from natural labour is caused by the inefficiency of the uterine efforts, we shall find the difficulty much greater. We have no standard for ascertaining the adequacy of the pains, nor for deciding upon the necessity of interference, except that which long experience gives to individuals. Besides, the question is not merely whether the unaided efforts of nature may not, after an indefinite length of time, accomplish the delivery; but whether the process will be completed before the constitution of the patient shall have suffered more than the ordinary shock. A patient may be delivered naturally, and yet die of the labour. In some cases there can be no doubt; the deficiency of uterine power, or the existence of constitutional disturbance is so marked, that prompt assistance of some kind is imperatively demanded. But in another class, these indications are less plainly marked; the pains cannot be said to be altogether inefficient; they might even complete the labour, if sufficient time could be allowed; but the patient is beginning to suffer, constitutionally or locally, from the prolongation of labour; and there are evidences that more danger may result from delay than from interference. Now, in these cases, where the power is inefficient, or altogether deficient, we have good ground for interference, provided we possess instruments which neither injure mother nor child, and which, from their mechanical arrangements, are calculated to assist feeble pains, or to supply their absence. For those cases where the deviation is dependent upon physical disproportion, it may be necessary that one life should be sacrificed to secure the other; and all that can be required is, that the instruments used be accurately adapted to secure the latter, as well as to effect the former.

Thus, whether we examine the cases we meet with, and decide upon the instruments required; or whether we classify the instruments we possess, we shall find them naturally divided into—1st. Those which are not intended to injure either mother or child, as the vectis and forceps; and 2nd. Those which are employed in the destruction and extraction of the child, but which are not intended to injure the mother, as the perforator and crotchet." 73.

IV. THE LEVER OR VECTIS.

A meddlesome midwifery, is a bad midwifery says an eccentric but most able author, and the indiscriminate use of the lever by many practitioners justifies his remark. This instrument is most unfortunately named, for, as every lever must have its fulcrum, so do the pelvic bones present one, but too convenient for the hasty or ignorant operator. Our author thus describes the case he thinks best adapted for its employment.

"The case which appears to me most suitable for the use of this instrument, and in which the probability of success is greatest, is that which I have sketched at the commencement of this essay, when the head having descended into the pelvic cavity, is arrested in its progress, not by any mechanical impediment, but by the inefficiency (not absence) of labour pains, and when the patient is beginning to show symptoms of constitutional or local disturbance. This condition does not take place until the second stage of labour has lasted some time, and as, after these symptoms have shown themselves, there is danger to the patient in further delay, it is important to obtain aid. . . . Now as there is supposed to be space enough, and pains though feeble, a slight additional force will often succeed in bringing the infant into the world at once. As there is nothing in the nature of the operation to add to the danger (!), and especially as the tractile force will probably be sufficient, it seems peculiarly suitable to this case; and I may add, that all the testimony I can collect is in favour of its application." 97.

"The lever may be used sometimes in rectifying the position of the head, and in expediting the labour in convulsions, &c.; but it is inadmissible in cases of impaction. As to whether preference is to be given to the lever or forceps, Dr. Churchill thus expresses himself:—

"Each writer has taken up this subject too much as a partizan. To compare their utility in certain cases, is little more than a waste of words; as, for example, where the pains have ceased, or where compression is required to extricate the head of the child. In such cases, the vectis is of no use, and it would be highly reprehensible to employ it. But, where there is room, and when the pains persist, there the vectis, being sufficiently powerful, has this signal advantage, that there is but one blade to be introduced, and but the thickness of that one blade added to the child's head. It is possible that the single blade may be able to act where the bulk of two would render extraction impossible. One point I must notice, which has been urged in favour of the vectis, viz., the *secrecy* with which it may be used. Now this I consider a decided advantage." 99.

V. THE FORCEPS.

Almost every accoucheur of celebrity has thought it necessary to modify the form of this instrument: the author figures more than eighty of these varieties—a tolerable good proof of the difficulty even able hands have experienced in its employment. "For myself," he says, "I prefer the long or short forceps with the single curve, with the blades and fenestra somewhat narrow, and approximating, so as to allow of a firm degree of pressure; with their edges smoothly levelled off; and the blades sufficiently strong to prevent their springing, but not so thick as to add unne-

cessarily to their bulk. The hand that is to use the instrument is, however, of more importance than the instrument itself, of which it may be observed with truth "that which is best administered is best."

As to the average frequency with which this operation is had recourse to, Dr. Churchill presents three tables, giving the following conclusions:—

Among British practitioners, 120 forceps cases occurred in 42,196 cases of labour—or about 1 in $351\frac{1}{2}$. Among the French, 277 in 44,736 labours—or 1 in 162. And among the Germans, 1702 in 261,224 labours—or about 1 in $153\frac{1}{2}$. In all, 2099 forceps cases in 348,156 cases of labour—or about 1 in 165. As to the *results* of the operation, only an approximation can be arrived at, since in some of the reports referred to, these have not been stated; and in others it has not been distinguished how far these may have arisen from other causes than the operation. Out of 294 forceps cases in British practice, 14 mothers, or 1 in 21, were lost. Among the French and Germans, in 479 cases, 35 mothers, or about 1 in $13\frac{1}{2}$, were lost. Of children, about 1 in $4\frac{1}{2}$ died in Britain, and 1 in 5 on the Continent.

In our author's observations upon the advantages attendant upon this instrument, the cases in which it is applicable, and the mode of its application, we find no novelty, nor anything to extract; the following caution should be written in letters of gold:—"I must also premise, that in no case is the forceps (or indeed any instrument) to be applied, until we are perfectly satisfied that the obstacle cannot be overcome by the natural powers, with safety to mother and child."

VI. THE PERFORATOR AND CROTCHET.

The operation of craniotomy is of so revolting a character, that one cannot feel surprised at the prejudice against its performance which prevails in the minds of many. But it is the province of true humanity even to inflict a lesser evil for the prevention of a greater. The circumstances under which the operation is required and practicable are thus stated.

"The case presupposes on the one hand, actual disproportion, sufficient to prohibit the passage of the fœtal head, even when compressed; and, on the other, that the distortion is not so great as to prevent the extraction of the child when mutilated. Dr. Osborn states that, when the bones approach much nearer to each other than three inches, it is utterly impossible for a living child at full maturity by any means to pass. He fixes upon $2\frac{3}{4}$ inches, as a diameter rendering craniotomy necessary. M. Alphonse Le Roi says that $3\frac{1}{4}$, Dr. Aitkin 3, Dr. Joseph Clarke $3\frac{1}{4}$, Dr. Burns $3\frac{1}{4}$, Dr. Ritgen 2, and Dr. Busch $2\frac{1}{2}$ to 3 inches, is the smallest antero-posterior diameter through which a living child can pass. As to the other limit of the operation, that is, the smallest diameter through which a child can be extracted after craniotomy, Baudelocque says that the crotchet is inadmissible when the diameter is only $1\frac{1}{2}$ of an inch; Dr. Dewees when it is less than 2;—Dr. Hull and Dr. Burns believe that it may succeed when the diameter is $1\frac{1}{2}$; MM. Gardien and Hamilton when it is $1\frac{1}{2}$; and Dr. Davis when it is 1 inch." (Dr. Osborn considers $1\frac{1}{2}$ in. space enough, provided time be given for the softening of the child's body by putrefaction, and the crania bones are picked out.) 169.

Dr. Churchill presents tables of the average frequency of this operation, whence it would appear to have been performed in Britain 181 times in 41,434 cases of labour—or about 1 in 228; in France, 30 times in 36,169 cases—or 1 in 1205 $\frac{2}{3}$; in Germany, 132 times in 256,655 cases—or 1 in 1,944 $\frac{1}{3}$. In estimating these numbers, the reader must bear in mind, that the axiom among British practitioners, that the child's life is to be unhesitatingly sacrificed when the mother's safety demands it, is not so implicitly received on the Continent, and hence the Cæsarian operation is often resorted to there, when the crotchet would be employed by ourselves.

The mortality amounted to 52 in 251 cases—or 1 in 5.

“At first sight one would expect the mortality among the mothers to be less, after the use of the crotchet than the forceps; but the result of these investigations shows the reverse to be the case. The only explanation I can give is founded upon the natural unwillingness of every humane practitioner to destroy life—the consequence of which feeling, is the delay of the operation so long as there is a hope of evading it. This delay, however, is unfavourable to the mother, and when at length the operation is performed, although it may have been less severe than delivery by the forceps, yet her condition rendered her much more susceptible of injury from it.” 173.

The cases in which this operation is allowable, consist of those instances of distortion or diminution of the pelvic cavity, through which an entire child could not pass, when the head of the child is hydrocephalic, and under a variety of circumstances in which delivery is urgently demanded, and is not practicable by means of the forceps. We think Dr. Churchill should have dwelt a little upon the signs of the death of the child, for, although in most cases in which the operation is to be undertaken, this must become only a secondary consideration, yet it is at least a satisfaction when the death can be reasonably supposed to have occurred.

We would suggest to the author, in the event of his work reaching another edition, that it would be exceedingly useful to present a digest of the facts upon record regarding the use of the *ergot of rye* in tedious parturition. Not only is the subject interesting and important in itself, but it is especially so in relation to instrumental labour, as there can be no doubt of the great diminution in the number of lever and forceps cases, since the introduction of that drug into midwifery practice; but, many practitioners are of opinion, that the number of still-born children is much greater, than when tedious cases are left entirely to nature; our own experience, as far as it goes, confirms this opinion; but, what may be the proportion of children born alive when the ergot is used, and when instruments are employed, we have no idea of, nor is a just one likely to be obtained, until midwifery statistics are more copious and more exact; this they might easily be rendered if every practitioner would be at the pains of noting down the leading fact of the cases which come under his care, and from time to time communicating them to the profession.

VII. THE CÆSARIAN SECTION.

This operation, never received with any favour in this country, has been

performed very frequently on the continent. Of course there are cases in which, from the narrowness of the pelvis, even a mutilated child cannot be transmitted, but these are rare, and in most instances ought to have been anticipated by the induction of premature labour. Dr. Churchill has collected references to a large number of cases, and thus expresses himself:—

“These tables yield the following results: 1. Among British practitioners, in 40 cases, 11 mothers recovered and 29 died, or nearly three-fourths. 2. Out of 37 cases where the result to the child is mentioned, 22 were saved and 15 lost, or 1 in $2\frac{1}{2}$. 3. Among continental practitioners, out of 359* cases, 217 mothers recovered, and 152 died; or about 1 in $2\frac{1}{2}$. 4. Out of 187 cases where the result to the child is given, 138 were saved and 49 lost, or nearly 1 in 4. 5. Taking the entire number, which amounts to 409, we find that 228 mothers were saved,† and 181 lost, or about 1 in $2\frac{1}{2}$; and that out of 224 children, 160 were saved, and 64 lost, or about 1 in $3\frac{1}{2}$ After a careful examination of the cases on record, I think we may fairly conclude, that as so many women have recovered from the operation, it does afford a chance to both mother and child, and that, therefore, we may be justified in having recourse to it; but that as the danger is much greater than from any other operation, we should not be warranted in performing it, if there were a prospect of success by other means. This, then, constitutes the sole *advantage* of the operation, that in *cases where we cannot deliver the patient by any other means, and when, consequently, both mother and child would inevitably die if left unaided, we may afford each a chance by performing the Cæsarian section.*” 225.

VIII. SYMPHYSEOTOMY.

This operation originating in an erroneous idea that the symphysis pubis separates and thus enlarges the cavity of the pelvis, in difficult labour, after the sacrifice of several victims to hasty conclusions, has sunk into that oblivion, which a due knowledge of the anatomy and physiology of the parts might at once have consigned it to.

IX. THE FUNIS UMBILICALIS.

This is a very interesting chapter.

Growth, Length, &c. of the Funis.—Although Hunter and Burns mention the 6th week as the time within which the cord is discovered, yet, Velpeau and Breschet state, that if the ovum be perfect, a cord is discernible from the earliest period, and our author coincides with these latter authorities.

* In 28 of these the women underwent the operation more than once.

† I do not mean that so many mothers were saved from death by the operation, but that they were saved from the effects of the operation. No doubt many were really saved from death, which could have been otherwise avoided; but we have proof that many could have been delivered by other means, inasmuch as they afterwards bore children naturally.”

"It is generally visible about the 15th day, when it rather exceeds the length of the fœtus. Up to the 3d week it is thin and cylindrical; from the 3rd to the 9th it encreases in size, and we find two or three vesicular swellings with narrow intervals; the last swelling persisting the longest. It contains at this period the vitelline duct, with the omphalo-mesenteric vessels, a portion of the urachus, the foetal intestines at its umbilical extremity, the blood-vessels, and some gelatine. About the end of the 2nd month the intestines are enclosed in the abdomen, and the vitelline duct and urachus are obliterated, so as scarcely to be detected afterwards." 262.

At the termination of pregnancy, the point of *origin* in the placenta is various. Oslander found out of 36 cases, in one only did the funis arise exactly from the *centre*, usually arising about two inches from the edge. This is contrary to our own observations made upon a considerable number of cases. The *length* of the cord is very variable; all lengths have been met with, from 2 inches, (Davis,) to 5 feet (Gardien). The author gives a table of 500 measurements which he has made in private and hospital practice. The conclusion from it is as follows.

"Thus we find that the most frequent length was 18 inches, the next 24, and the next to that 20 inches; so that we may agree with those authors who state the average length of the cord to be between 18 and 24 inches. Extremely short cords must be very rare, and scarcely to be calculated upon in practice—since out of 500 cases none were under 12 inches (6 were 12 inches). Only four were about 3 feet. I have no data by which to test the observation of Oslander, that male children have generally longer cords than females." 265.

After describing the structure of the cord, and detailing the evidence of its possession of nerves and lymphatics, the author alludes to various deviations from the normal conditions. When speaking of cases in which the funis and umbilicus are said to have been absent, he mentions the following deviation.

"A case of an acephalous fœtus recently occurred at the Western Lying-in Hospital, which had formed adhesions by the back of the neck to the placenta, from which the funis arose, and passing round the right side of the neck, was inserted into the depression between the face and the neck, just about the spot where the angle of the jaw should have been, had there been no mal-formation. The vessels of the cord passed behind the cavicle and ribs, down into the chest and abdomen, and were there lost. There was a depression, or a *cul de sac*, about the proper situation of the umbilicus. This is the most remarkable deviation from the usual course of the funis I have ever seen. Chaussier relates an instance where the placenta was attached to the liver, and another is on record in which it adhered to the abdomen." 273.

Knots of the Cord.—These are not unfrequently found, and may be single or double. Burns supposes that they may sometimes be formed during labour, but those to which allusion is now especially made, are probably formed during the period of utero-gestation. Some authors consider them as very dangerous, or even fatal, but a contrary opinion held by others, is believed by Dr. Churchill to be the just one. As the cord has been sometimes knotted after death to conceal infanticide, by presenting an apparent cause of death, it may become an important point to distinguish knots of the cord thus formed from those formed in utero.

"If the knot be moderately loose, and the vessels on either side varicose: if

the injection pass easily, and the cord curls when untied, and the inside of the circle be flattened, we may conclude that the knot is of old standing, and also that it could not have caused the death of the fœtus. If, on the other hand, the knot be drawn very tight, so that the injection cannot pass; if there be no varicose state of the vessels; no flattening of the inner surface of the knot; and no curling round when untied, the evidence is in favor of the recent formation of the knot, either during the delivery, or subsequently, and more or less against the supposition of its having caused death." 278.

Coiling of the Funis round the Child's Neck.—"The funis may be coiled round the child's neck, extremities, or body, in consequence of its excessive length, (the author never met with it in funes of less length than 18 inches, usually 24,) and the movements of the fœtus in utero. If the length of the cord be very great, several coils may be formed. I have quoted from M. Heritier, a case where it was five times round the neck. An artificial coil may be found during the expulsion of the child, or in turning. As to the frequency of this occurrence, Richter of Moscow met 27 examples out of 624 cases; Siebold, at the Berlin Clinique, 21 out of 137 cases; and Kluge 63 out of 263. Dr. Ashwell mentions 30 cases of coiling in 619 cases. I give these on the authority of M. Velpau, as I have not the documents to refer to. Out of 242 cases, of which notes were taken under my own superintendence, it occurred 63 times. Thus, in 1920 cases, there were 204 examples of coiling, or rather more than 1 in 9." 276.

Position of the Umbilicus.—This has been observed with minuteness in reference to legal medicine. The insertion of the funis, which is near the pubis at the early period of fœtal life, is said to be, by Chaussier Montgomery, and others, in the centre of the body at birth in a full-timed fœtus.—M. Monreau having examined 500 hundred children at the Maternité in reference to this point, has, however, found the insertion only central in four cases. On an average it was found to be 8 or 10 lines below this point, while in a few instances of premature children the cord was inserted in the centre.

The cord has been supposed frequently to exert a considerable influence on *parturition*. Thus labour has been said to have been impeded by a too *short* cord. This has been supposed to be a cause of retraction of the head, of reversion of the uterus, and of rupture of the cord. The author thinks that the statistics of midwifery amply prove the truth of Nægele's remark, "that the cord is rarely, if ever, so short as to hinder labour, or to entail any serious consequences." So, too, the shortening of the funis produced by its coiling around the infant has probably little or no influence upon the labour. The funis may be *prolapsed* either at the beginning or during labour. In 92,017 deliveries this occurred 333 times, or 1 in every 276½. Many circumstances have been supposed influential in producing this occurrence; such as a small child and abundant liquor amnii, a long funis, and according to Nægele, irregular shape, or irregular action of the uterus. "I may add, from my own observation, that I have found, in several cases of prolapse, that the *placenta* was situated *low down*, near the cervix uteri, and in some few others, that the *funis* was inserted into the lower edge of the placenta." In the *treatment* of this deviation, no general rule prevails; some practitioners endeavour, but with indifferent success, to return the cord, and retain it free from pressure by some mechanical contrivance; others have thought it better to expedite the labour by means of turning,

or the forceps. "No matter what means are adopted, the mortality, especially in hospital practice,* will be very considerable: thus, out of 249 of the cases I have referred to, 155 were lost and 94 saved.

Ligature after Birth.—It would be thought a great omission in this country to neglect the due application of the ligature, and, where this has been done carelessly, fatal hæmorrhage has often resulted. Nevertheless, several physicians object to it as unnecessary, and as likely to cause congestion. The author has seen infants, in M. Capuron's wards, in whom no ligatures were applied. Doubtless, in a state of nature, when the cord is probably torn rather than cut, fatal hæmorrhage would be rare, as it is in these cases of ruptured funis which are sometimes met with in sudden deliveries; but when the cord has been cut, there must always be great risk of subsequent hæmorrhage, although this may not be manifest at the time of the incision. As to the second ligature, the author says—

"It is customary in these countries to tie the cord a second time nearer the placenta, with a view to prevent hæmorrhage, in case there should be a second child, and a vascular communication between the placenta. It is a matter of precaution, not of necessity. It is said by some French authors, that allowing the cord to bleed, facilitates the expulsion of the placenta. I am not prepared to speak decidedly upon this point, but I know that it weakens the cord, and unfits it for much traction." 292.

Decadence of the Cord †—Of the period when this occurs Dr. Churchill has kept an account in 200 cases.

"In one case it fell on the 2nd day—in 4 on the 3d—in 20 on the 4th—in 25 on the 5th—in 18 on the 6th—in 24 on the 7th—in 10 on the 8th—in 7 on the 9th—in 1 on the 10th. Thus the 5th and 6th days are the ordinary periods of its detachment. My friend Dr. Montgomery, informs me he has had one persistent until the 15th day, and Dr. Breen has seen one at the 13th day." 294.

X. REPORT OF THE WESTERN LYING-IN HOSPITAL.

This is a statistical account of the cases which have occurred in this Institution during five years: such reports are very useful, and it is to be regretted that any individual, having it in his power to produce similar ones, should neglect doing so. A brief extract may prove interesting.

During the five years 1705 females were delivered; 65 of these were abortions, and 1640 children at the full time. The number of children amounted to 1667, including 25 cases of twins and one of triplets: 123 were still-born or died soon after birth, of whom 18 were premature and 6 putrid. In 1525 cases the presentation was as follows:—in 1435 the head presented; 16 head and hand (1 died); 35 breeches (14 died); 22 foot

* Many cases do not seek admission into the hospital until a chance of safe delivery is diminished, or even until the cord has ceased to pulsate. Twenty-two such cases occurred out of the 73 unfavorable cases recorded by Collins.

† For an account of Billard's interesting observations upon this subject see *Medico-Chir. Rev.* Vol. 32. p. 332, April 1840.

(10 died); 9 arm (5 died); 7 funis (5 died); 1 placenta (died). *Flooding* occurred *before* labour in 4 cases;—3 were cases of accidental, and one of unavoidable hæmorrhage. *Flooding* occurred *after* labour in 21 cases; no patient being lost from this cause. *Convulsions* occurred in 3 cases; 2 recovered:—13 patients were attacked by *puerperal fever*; of whom 4 died. *Turning* was required in 11 cases, or 1 in 149: three of the children and all the mothers were saved. The *forceps* was employed in 3 cases, or 1 in 547; one child was putrid, the others were saved, as were all the mothers. *Craniotomy* was performed in 12 cases (1 in 136); one woman died, but she was not seen until her case was hopeless. Of the entire number (1705), 10 women died, or 1 in 170—of these, 1 died from prolonged second stage (owing to neglect) giving rise to fever; 1 from pulmonary disease, combined with the shock of an operation; 2 from mismanagement of attendants after delivery; 4 from puerperal fever; 1 from apoplectic convulsions; 1 from cause unrecorded.

This volume, like its predecessors, presents an interesting resumé of what is known on the subjects upon which it treats; and, with even less pretensions to originality than the former volumes, exhibits the meaning of the various authors quoted faithfully, and often in the very words employed by them. The chronological list of British and Continental works of Midwifery will be found useful to the student; but we think the Plates of the various instruments employed in obstetrical surgery, many of which are now obsolete, might have been omitted, tending, as they do, to encrease the price of the book without corresponding advantage. We strongly recommend the work to our professional brethren.

THE PHILOSOPHY OF MYSTERY. By *Walter Cooper Dendy*, Senior Surgeon of the Royal Infirmary for Children, &c. &c. Octavo, pp. 434. Longman & Co. April 1841.

WE will venture to aver that so curious and amusing a book has never issued from the *medical* press of this or any other country. It reminds us in every page of the erudite Burton, whose "ANATOMY OF MELANCHOLY" is so well calculated to drive away the vapours from the most confirmed hypochondriac. The research displayed in this volume is so varied and extensive, that we are absolutely astonished how a young medical man in full practice could have spared time from his professional studies and labours for the construction of a work exploring almost every labyrinth in the boundless fields of metaphysics, besides the dark paths of psychology, physiology, ideology, from the mysterious creation of man himself, down to the mummery of MESMERISM and the "OCCULT SCIENCES." We do not maintain that Mr. Dendy has unravelled all the mysteries which he has discussed; but, by throwing the dialogue into the mouths of four personages (Castally, Evelyn, Ida, and Astrophel)—two females and two males—one of them a learned student in black-letter folios, he has contrived to mingle interrogatory, opposition, scepticism, superstition, and ingenious explanation, in a spirited and amusing conversation, into which is infused

a prodigious mass of the curiosities of mystery collected, one would suppose, from every work and page in the library of the British Museum! Such a work as much defies analysis as the "Anatomy of Melancholy" itself, or the large edition of Johnson's Dictionary, with its endless quotations from all the English authors that ever wielded a pen. It is pretty evident that, under the name and character of Evelyn, the author personifies himself, and enunciates his own opinions. But still it is impossible to cut out and isolate this interlocutor, without destroying the whole spirit of the dialogue. The work must be perused—and it will be extensively read both within and beyond the pale of the profession—before any conception can be formed of its nature, contents, or execution. All we can do is, to introduce a short dialogue, taken almost at random, as a mere specimen of the manner in which Mr. Dendy handles his subjects.

"ASTROPHEL. Then there is some truth in the whimsical localities in the 'Anatomy of Melancholy,' and the pictures of the tenants and apartments of the brain in the ingenious romance of the 'Purple Island' of Fletcher.

EVELYN. Although I grant that these eccentric writers evince much reading I am not sure that their impersonations (like the 'Polyolbion' of Drayton,) do not tend to confuse, rather than elucidate, a natural subject.

Of a plurality of organs in the brain, I have been convinced, even from my own knowledge and dissections. I have seen that very considerable portions of the *cerebrum* may be removed, the individual still existing. The *vital* functions may continue, the *animal* functions are deranged or lost. The most extensive injuries of the brain, too, are often discovered, which were not even suspected; and the converse of this is often observed,—the diseases of the brain being commonly found in an *inverse ratio* to the severity of the symptoms. When *chronic* tumours and *cysts* of water are *gradually* formed, the extreme danger is averted by the balancing power of the circulation of the brain's blood; without which its incompressibility would subject it to constant injury.

In *tubercles* of the brain, it is curious that *memory* is the faculty chiefly influenced; it is sometimes rendered dull, while the fancy is vivid,—often more perfect and retentive.

Brain, however, can no more be considered as mind itself, than *retina* sight, or than the sealing-wax can be identical with the electricity residing in it. For if we look at the brain of a brute, we see how closely it resembles our own; then, if we reflect on human intellect and brute instinct, we must all believe at once that there is some diviner thing breathed into us than the *anima brutorum* of Aristotle, something more than the mere vitality,—

'Spiritus intus alit, totamque infusa per artus
Mens agitat molem.'

Brain is therefore the *habitat* of mind, the workings of which cannot be indicated without it; for, as the material world would be intact without a sense, so there can be no moral evidence of mind without a brain, which is indeed the sense of the spirit. Thus, without adopting the creed of the *Hylolist*, the *moderate* materialist,—that the mind cannot have, during the life of the body even a momentary existence independent of matter,—I believe, that when this matter is in a state of repose, mind is perfectly passive to our *cognizance*.

IDA. It is with diffidence, Evelyn, that I enter this arena with a physician, learned in the body; but is there no danger in this doctrine? does it not imply the office of a *gland*,—that brain is the *origin* of soul, and that its function was the *secretion of thought*.

Ev. such is the timid error of the mere metaphysician, Ida. There is no such danger; for, remember, if there be secretion, it is the *soul* which *directs*. Many

a thought is referred to things which we cannot bring into contact with our consciousness,—*except by the brain.*

Dr. Gall writes of a gentleman, whose forehead was far more elevated on the right side than the left; and he deeply regretted that with this left side he could never think. And Spurzheim, of an Irish gentleman, who has the left side of the forehead the least developed by four lines,—he also could not think with that side, as indeed I have before hinted.

I may tell you the brain is *double*, and one healthy *hemisphere* is sufficient, as the organ of mind, if pain or encroachment of the opposite, when diseased, does not destroy life. and this especially when it is a *chronic* change, or exists from birth; so that I have often seen one hemisphere of the brain a pulpy bag of water, and yet vitality and many signs of intellect may still exist; nay, even if the whole brain be reduced to one *medullary* bag, animal life shall for some time be preserved.

To oppose this blending of mind and matter, Lord Broughman (in his *Natural Theology*) likens the marble statue hewn into beauty, to the perfect arrangement of organization in a being. While I admire the idea, I may observe that he forgets this truth,—that the maker of one was a mere *statuary*, without even the fabulous power of Prometheus, or Pygmalion, or Frankenstein; the other, the *Creator* of all things, who *breathed a breath of life into the shape he had made fitted to receive it.* My lord thus halts at the threshold of discovery: mind is not the *product* of organization, but it works *by* and *through* it; and therefore, for its *earthly* uses, cannot be independent of the qualities of matter. We may as well agree with Plato, in endowing the soul with 'a plastic power, to fashion a body for itself, to enter a shape and make it a body living.' I remember Plutarch (in his *Quest. Platon*) makes him say, that the soul is older than the body, and the source of its existence, and that the intellect is in this soul. But where is the sacred evidence of this? for, even in our *antenatal* state, we live, and yet there is probably no consciousness; there is vitality, at least, without the *consciousness* of an intellect.

ASTR. As the creation of light was *before* that of the sun, its reservoir, so the creation of the soul might be before the brain, in which the Creator *subsequently* placed it.

EV. For this there is sacred evidence, Astrophel. There *was* light, ere the sun was created as its reservoir; but the soul was breathed into the body, which was already then created.

ASTR. This is a specimen of your special pleading, Evelyn, allied to that perilous error of Priestly, that supposed function and structure to be identical, because they are influenced by the same disease, and seem to live and die, flourish and decay, *together.* Democritus also has written his belief that, 'as the smell of a rose exists in the bloom, and fades as that dies, so the soul of an animal is born with its birth, and dies with its death.' You have conceded to me (and we must all be conscious of) the great difficulty of conceiving the *nature of spirit*; but, if we are required to prove its existence, we may answer, by analogy, that we cannot always palpably prove the existence of *matter*, although we *know it* to exist. The *electric fluid* may remain for an indefinite period invisible, nay, may never meet the sight,—it may even traverse a space without any evidence but that of its wonderful influence, and at length be collected in a jar.

As light, existing in remote stars, has not yet reached our earth, so the electricity is now residing in myriads of bodies which will never be elicited; and thus (if I may extend the simile) the principle of life, whatever it be, may have an independent existence during life, may leave the body and yet not perish. Is not this a fine illustration of the living of the soul without the body; for here even a grosser matter, yet invisible, is evinced by its passage from one thing to another, although it is inert when involved in the substance?

IDA. May I not fear that the errors of philosophy, grounded on the difficulty

of conceiving the nature of a self-existent spirit, will not stop until they lapse into the belief of annihilation?

For there are many suspicious sentiments even in the pages of well-meaning writers; such are the dangerous sentiments which Boswell has ascribed to Miss Seward:—"There is one mode of the fear of death which is certainly absurd, and that is the dread or annihilation, which is only a pleasing sleep without a dream."

There may be nothing terrible in the condition of annihilation, yet the moral effect is deplorable; indeed, to doubt the eternal existence is to argue that man's life is but a plaything of the Deity. The notion of annihilation is so abhorrent, that he who believes it dooms himself indeed to a miserable existence; for the crowning solace of a Christian life is holy hope, and belief in the priceless gift of immortality." 186.

High as was our opinion of Mr. Dendy's talents and acquirements, we had no idea of the *extent* of his erudition and researches, till the present work came under our observation. It will assuredly stamp him as one of the most literary characters in the profession at the present time. Although the author, like every man of genius, may have sometimes permitted his imagination to take wide flights, yet the opinions and explanations that flow from Evelyn in this work, are for the most part, orthodox and scientific.

I.—MORAL PHILOSOPHY; OR THE DUTIES OF MAN CONSIDERED IN HIS INDIVIDUAL, DOMESTIC, AND SOCIAL RELATIONS. By George Combe. 8vo. Edinburgh and London, 1840, p. xvi, 440.

II.—NOTES ON THE UNITED STATES OF NORTH AMERICA, DURING A PHRENOLOGICAL VISIT, in 1838-9-40. By George Combe. Three volumes, 8vo. Edinburgh and London, 1841, p. xxiv., 1260. With a Map and Illustrative Diagrams.

ALTHOUGH, on a cursory view, these works of Mr. Combe's may appear little calculated to embrace questions essentially, or even relatively, connected with the principles of medical philosophy; nevertheless, if candidly and considerately examined, his volumes will be found so full of natural and scientific truth, that the most experienced physician may derive from them a valuable and varied supply of excellent practical information. We say this much in their favor, without partiality or exaggeration; and, as a means of inducing others to follow our example, in studying his doctrines with an honest and independent spirit, we proceed to analyze such portions of our author's pages as seem best adapted to engage attention, in a medico-chirurgical journal.

I. THE MORAL PHILOSOPHY.

Mr. Combe originally propounded his system of moral science in twenty lectures, delivered during the Winter sessions of 1835-6, to large classes

of auditors by whom his instructions were received with an unusual degree of attention. While the course was in progress, they were successively reported, in the Edinburgh Chronicle, and thus an increasing interest was attracted to them, through the influence of this respectable journal. Soon afterwards, they were published in America, in the form of a convenient volume, and the whole impression was speedily exhausted in that country. During his recent sojourn there, the author republished his complete course, with suitable additions and corrections, and, since his return to Scotland in the early part of last year, he has subjected his entire doctrine to a particular and careful revision. It is, therefore, as an improved and matured edition, that his lectures on moral philosophy are now submitted to the public consideration and judgment.*

Mr. Combe founds his moral philosophy on the phrenological principles—a circumstance which, he thinks, may appear to those who have not ascertained the truth and value of the latter science, to be nothing better than putting forth mere conjectures as the grounds of human duty; but, in harmony with the judgment of intuitive justice, he declares that the fact of many such persons withholding their assent to phrenology and its principles, does not necessarily render it an imaginary or hypothetical science; the denial of the circulation of the blood, by Harvey's contemporaries, did not arrest the action of the heart, arteries, and veins; scientific truths exist independently of human observation and opinion. "As in general physiology and other sciences," he observes, "there are points in phrenology still unascertained, and these may hereafter prove to be important; but the future discovery of the functions of the spleen, will never overturn the ascertained functions of the lungs or spinal marrow; and, in like manner, the ascertainment of the uses of certain unknown parts at the base of the brain, will not alter the ascertained functions of the anterior lobe and coronal region. I consider the phrenological principles, on which I have founded the following lectures, to be established by such an extensive induction of facts, that they will sustain the severest scrutiny and not be found wanting; and I shall, with becoming resignation, abide the verdict of those, who, by study and observation, shall have rendered themselves competent to judge of their merits."

On the present occasion, we select Mr. C.'s fourth lecture for exposition, as being most appropriate to our purpose of enlarging the sphere of prophylactic experience. It is intitled the "*Preservation of Bodily and Mental Health, a moral duty.*" In the first instance, however, as this author makes frequent allusion to the "physical and organic laws," and as it may be the reader's wish to know the precise meaning he attaches to these expressive terms, we introduce an explanation of their import according to the lecturer's usage. This definition of the acceptance in which he employs them, occurs in another philosophical work* of his, as in the following extract:—

"If the reader keep in view, that God is the creator; that Nature, in the general sense, means the world which he has made;—and, in a more limited

* The Constitution of Man, considered in relation to external objects; 8vo. London, 1835, p. 27, the third edition, revised, corrected, and enlarged.

sense, the particular constitution which he has bestowed on any special object, of which we may be treating; and that a law of Nature means, the established mode in which the actions and phenomena of any creature or object exhibit themselves, and the obligation thereby imposed on intelligent beings to attend to it,—he will be in no danger of misunderstanding my meaning. Every natural object, then, has received a definite constitution, in virtue of which it acts in a particular way. There must, therefore, be as many natural laws, as there are distinct modes of action of substances and beings, viewed by themselves. But substances and beings stand in certain relations to each other, and modify each other's action in an established and definite manner, according to that relationship; altitude, for instance, modifies the effect of heat upon water. There must, therefore, be also as many laws of nature, as there are *relations* between different substances and beings. It is impossible, in the present state of knowledge, to elucidate all these laws—numberless years may elapse before they shall be discovered; but we may investigate some of the most familiar and striking of them. Those that most readily present themselves bear reference to the great classes into which the objects around us may be divided, namely, physical, organic, and intelligent.

1st. The *physical* laws embrace all the phenomena of mere matter; a heavy body, for instance, when unsupported, falls to the ground with a certain accelerating force, in proportion to the distance which it falls; and its own density; and this motion is said to take place according to the law of gravitation. An acid applied to a vegetable blue colour, convert it into red, and this is said to take place according to a chemical law.

2ndly. *Organised* substances and beings stand higher in the scale of creation, and have properties peculiar to themselves. They act, and are acted upon, in conformity with their constitution, and are therefore said to be subject to a peculiar set of laws, termed the *organic*. The distinguishing characteristic of this class of objects is, that the individuals of them derive their existence from other organized beings, are nourished by food, and go through a regular process of growth and decay. Vegetables and animals are the two great sub-divisions of it. The organic laws are different from the merely physical: a stone, for example, does not spring from a parent stone; it does not take food; it does not increase in vigour for a time, and then decay and suffer dissolution; all which processes characterize vegetables and animals. The organic laws are superior to the merely physical. A living man, or animal, may be placed in an oven, along with the carcass of a dead animal, and remain exposed to a heat which will completely bake the dead flesh, and yet come out alive, and not seriously injured. The dead flesh is mere physical matter, and its decomposition by the heat instantly commences; but the living animal is able, by its organic qualities, to counteract and resist, to a certain extent, that influence. The organic laws, therefore, mean the established modes according to which all phenomena connected with the production, health, growth, decay, and death, of vegetables and animals, take place. In the case of each animal or vegetable of the same kind, their action is always the same, in the same circumstances. Animals are the chief objects of my present observations.

3rdly. Intelligent beings stand yet higher in the scale than merely organized matter, and embrace all animals that have distinct consciousness, from the lowest of the inferior creatures up to man. The two great divisions of this class are *intelligent and animal*—and *intelligent and moral* creatures. The dog, horse, and elephant, for instance, belong to the former class, because they possess some degree of intelligence, and certain animal propensities, but no moral feelings; man belongs to the second, because he possesses all the three. These various faculties have received a definite constitution, and stand in determinate relationship to external objects: for example, a healthy palate cannot feel wormwood sweet, nor sugar bitter; a healthy eye cannot see a rod partly plunged in water straight—because the water so modifies the rays of light, as to give to the stick

the appearance of being crooked ; a healthy sentiment of benevolence cannot feel gratified with murder, nor a healthy conscientiousness with fraud. As, therefore, the mental faculties have received a precise constitution, have been placed in fixed and definite relations to external objects, and act regularly :—we speak of their acting according to rules or laws, and call these the moral and intellectual laws."

With these important distinctions held in view, let us now attend to Mr. Combe's philosophy in establishing the doctrine, that *prophylaxy*, or the preservation of bodily and mental health, is a mortal duty. At the outset then, we find him stating didactically, that the causes of bad health result from infringement of the *organic* laws. We are instructed by universal experience—that, without health, man is unfit for the successful discharge of his duties ; he is, therefore, under every obligation to apply his knowledge in preserving himself in a sound state both of body and mind. This is a self-evident maxim, and will not be gainsaid ; but, while its truth is readily admitted, there are very many persons who remain grievously ignorant of the means how to carry it as a general injunction into effect. Let us see how the moralist exposes the "causes of bad health," by a plain array of facts and arguments.

He remarks, at p. 75, that, in tracing to their source the calamities which arise to families and individuals from bad health and untimely death, attended by deep laceration of the feelings and by numerous privations, it is surprising how many of these calamities may be discovered to result from slight but long continued deviations from the dictates of the organic laws ; so slight that at first scarcely any injurious or even disagreeable effect was observed, but which gradually augmented until the most ruinous consequences were produced. Perhaps, he says for an instance, the victim was an ardent student ; and under the impulse of a laudable ambition to excel in his profession, he studied with so much intensity, and for such long periods in succession, that he overtasked his brain and destroyed his bodily health. Equally ignorant of the organic laws with himself, his parents and relations were rejoicing in his diligence, and forming fond expectations of the brilliant future that must, in their estimation, await one so gifted in virtuous feelings, in intellect, and in industry ; when suddenly he was seized with fever, with inflammation, or with consumption ; and in a short time, he was carried to the tomb. On this melancholy picture, Combe pathetically but justly observes—the heart bleeds at the sight, and the ways of Providence seems hard to be reconciled with our natural feelings and expectations : yet, when we trace the catastrophe backwards to its first causes, it is ascertained to have had no mysterious origin. The very habits which appeared so amiable to the spectators, and so well calculated to lead to such excellent attainments, were practically erroneous : and, indeed, there was not one link wanting to complete the connection between the fatal habits and the disastrous event which all so seriously lament. We press this picture on the gravest consideration of our readers, as available in their hands for the benefit of their youthful friends, of their own families, and perchance of themselves.

Another cause by which both health and life are frequently destroyed, is *occasional* reckless conduct, pursued in ignorance of the laws of the

human constitution. Mr. Combe exemplifies this cause in the two following cases, which we transcribe.

Case I.—"A young man in a public office, after many months of sedentary occupation, went to the country on a shooting expedition, where he exhausted himself by muscular exertion, of which his previous habits had rendered him little capable; he went to bed feverish, and perspired much during the night, next day he came to Edinburgh, unprotected by a great coat, on the outside of a very early coach; his skin was chilled, the perspiration was checked, the blood received an undue determination to the interior vital organs, disease was excited in the lungs, and within a few weeks he was consigned to the grave."

Case II.—This is an interesting illustration of our moralist's prophylactic principles: it is the case, communicated in his own words, of a medical gentleman—*Dr. Robert Macnish*—who is well known in the literary world by his "*Anatomy of Drunkenness*," and other instructive publications; and who, since this account was written, has fallen a victim to an attack of fever. Addressing Mr. Combe, he says, "On four several occasions, I have nearly lost my life from infringing the organic law. When a lad of fifteen, I brought on a brain fever (from excessive study) which nearly killed me; at the age of nineteen I had an attack of peritonitis, (inflammation of the lining membrane of the abdomen), occasioned by violent efforts in wrestling and leaping; and while in France, nine years ago, I was laid up with pneumonia (inflammation of the lungs) brought on by dissecting in the great galleries of La Pitie with my coat and hat off in the month of December, the windows next to me being constantly open; and, in 1829, I had a dreadful fever, occasioned by walking home from a party, at which I had been dancing, in an exceedingly cold morning, without a cloak or great coat. I was for four months on my back, and did not recover perfectly for more than eighteen months. All these evils were of my own erecting, and arose from a foolish violation of laws which every sensible man ought to observe and regulate himself by. Indeed I have always thought—and your book confirms me more fully in the sentiment—that, by proper attention, crime and disease, and misery of every sort, could, in a much greater measure than is generally believed be banished from the earth, and that the true method of doing so is to instruct people in the laws which govern their own frame."

Another principle held by Mr. Combe in his prophylactic system is this—"The great requisite of health consists in the preservation of *all* the leading organs of the body in a condition of regular and *proportionate* activity; to allow none to become too languid, and none too active." In his estimation, the result of this harmonious activity is a pleasing consciousness of existence experienced when the mind is withdrawn from all exciting objects and turned inwardly on its own feelings. He gives a portraiture of the quiet, delightful enjoyment which accompanies health, in the words of a philosophical friend, whose description appears to be admirable. It was the remark of this sage, that he never considered himself in complete health, except when he was able to place his feet firmly on the turf, with his hands hanging carelessly by his sides and his eyes wandering over space; and, thus circumstanced, to feel such agreeable

sensations arising in his bodily frame, that he could raise his mind to Heaven and thank God that he was a living man

We can hardly doubt of the Creator's having intended that the mere play of our bodily organs should yield us pleasure. It is probable too, that this is the chief gratification enjoyed by the inferior animals; and, although man has received the high gift of reason, it does not necessarily follow that he should be deprived of the delight which the organic nature is fairly calculated to afford. There is much instructive, though too often neglected, truth in the sentiments p. 78-9, which we record here with cheerfulness and approbation.

"How different is the enjoyment which I have described," Mr. C. remarks, "arising from the temperate, active, harmonious play of every bodily function, —from sensual pleasure, which results from the abuse of a few of our bodily appetites, and is followed by lasting pain; and yet so perverted are human notions in consequence of ignorance and vicious habits, that thousands attach no idea to the phrase *bodily pleasure*, but sensual indulgence. The pleasurable feelings springing from health are delicate and refined; they are the reward and the support of virtue, and altogether incompatible with vicious gratification of the appetites. I am afraid that so widely do the habits of civilized life depart from the standard of nature, that this enjoyment is known in its full exquisiteness, to comparatively few. Too many of us, when we direct our attention to our bodily sensations, experience, instead of it, only feelings of discomfort, anxiety, and discontent, which make us fly to an external pursuit, that we may escape from ourselves. This undefined uneasiness is the result of slight but extensive derangement of the vital functions, and is the prelude of future disease. The causes of these uneasy feelings may be traced in our erroneous habits, occupations, and physical condition; and until society shall become so enlightened as to adopt extensive improvements in all these particulars, there is no prospect of their termination."

With regard to the advantages of cleanliness and exercise, as elements in his prophylactic discipline, our moralist adduces a variety of illustrations, which are not the less apt and applicable because they are homely. It is instructive, he observes, to compare with our own, the modes of life of the lower animals whose actions and habits are directly prompted and regulated by the Creator, by means of their instincts; because, in all circumstances in which our constitution closely resembles theirs, their conduct is really a lesson read to us by the All-Wise himself. In a state of nature, animals are remarkably cleanly in their habits: the feathered tribes dress their plumage, and wash themselves in the brooks; the domestic cat carefully preserves a clean, sleek, shining fur: the dog rolls himself on grass or straw: when grazing, the horse does the same: the sow is invariably clean, wherever it is possible for it to be so; its bad reputation arises from its master leaving it no sphere of existence except dunghills and other receptacles of filth. Again, in a state of nature, there has been imposed on the lower animals in acquiring their subsistence, a degree of labour which amounts to a regular exercise of their corporeal functions: At the same time, their food has been so adjusted to their constitutions, that they are well nourished, but very rarely rendered sick through surfeit or the bad quality of what they eat. *In a state of nature* then, the animals are impelled directly by the Creator to act in this manner; and, when we study their organization and see what is necessary to preserve it in

health and enjoyment, we cannot fail to admire the wisdom and benevolence displayed in their natural economy and constitution.

Following up his enlightened views with the object of making them conducive to the welfare of moral and intelligent beings, our experienced prophylactist proceeds to expatiate on the duty and comfort of cleanliness, in these expressive terms:—

“Man differs from the brutes in this—that instead of blind instincts, he is furnished with reason, which enables him to study himself, the external world, and their mutual relations; and to pursue the conduct which these point out as beneficial. It is by examining the structure, modes of action, and objects of the various parts of his constitution, that man discovers what his duties of performance and abstinence in regard to health, really are. This proposition may be illustrated in the following manner. The skin has innumerable pores and serves as an outlet for the waste particles of the body. The quantity of noxious matter excreted through these pores in twenty-four hours is, on the very lowest estimate, about twenty-four ounces. If the passage of this matter be obstructed so that it is retained in the body, the quality of the blood is deteriorated by its presence, and the general health, which greatly depends on the state of the blood, suffers. The nature of perspired matter is such, that it is apt, in consequence of the evaporation of its watery portion, to be condensed and clog the pores of the skin; and hence the necessity for washing the surface frequently, so as to keep the pores open and allow the perspiration to be freely performed. The clothing, moreover, must be so porous and clean, as readily to absorb and allow a passage to the matter perspired, otherwise the same result ensues as from the impurity of the skin, namely, the obstruction of the process of perspiration. Nor is this all. The skin is an absorbing as well as an excreting organ, so that foreign substances in contact with it are sucked into its pores and introduced into the blood. When cleanliness is neglected, therefore, the evil consequence is two-fold; first, the pores, as we have seen, are clogged, and the perspiration obstructed; and, secondly, part of the noxious matter left on the skin or clothing, is absorbed into the system, where it produces hurtful effects. From such an exposition of the structure and functions of the skin, the necessity for cleanliness of person and clothing becomes abundantly evident; and the corresponding duty of cleanliness is more likely to be performed by those who know the preceding details, than by persons who are impelled to performance by bare injunctions. In some parts of the East, ablution of the body is justly regarded as a duty of religion: but it needs not to be told how extensively this duty is neglected in our own country. When men become enlightened, a warm bath, once a week at least, will be considered one of the necessities of life:—those who are in the habit of keeping their skin in a proper condition, by means of bathing and friction, will bear testimony to the increase of comfort and activity which is thus secured.”

Instead of entering into a description of the bones, muscles, blood-vessels, nerves and brain, and a demonstration that the necessity of bodily and mental labour, of temperance, of attention to ventilation, clothing and lodging, and of many other salutary observances, is written by the finger of God in the frame-work of our bodies, Mr. C. limits this part of his lecture to two observations. 1. Exercise of the bones and muscles is labour, as he justly remarks; and labour, instead of being a curse to man, is a positive source of his well-being and enjoyment. It is only excessive labour that is painful; and, in a rightly ordered community, he believes there would be no necessity for inordinate exertion. 2. Exercise of the brain is mental activity or labour, and this is intellectual, or moral, or animal, according to the faculties which are employed. Mental inactivity,

therefore, implies inactivity of the brain; and, as the brain is the fountain of nervous energy to the whole system, the punishment of neglecting its exercise is great and severe—namely, feelings of lassitude, uneasiness, fear and anxiety, vague desires, sleepless nights, and a general consciousness of discomfort, with incapacity to escape from suffering; all which poison life at its source, and render it thoroughly miserable. On the other hand, when combined, with due bodily exercise, well-regulated mental activity is rewarded with gay, joyous feelings, an inward alacrity to discharge all our duties, a good appetite, sound sleep, and a general sense of happiness that causes days and years to fleet away without leaving a trace of misery behind. It is equally indispensable to shun over-exertion, and undue or premature mental excitement; but, owing to the constitution of society, it is difficult to avoid, in our habitual conduct, one or other of the extremes of indolence or excessive exertion. Many persons, born to wealth, have few motives to engage in active employments: and such individuals, particularly females, often suffer grievously in their health and happiness from want of rational pursuits, calculated to excite and exercise their bodies and minds. Others, again, who do not get riches by inheritance, are tempted to overwork themselves in acquiring wealth and independence. An expensive style of living is so general as to be felt by many to be unavoidable; and, to support it, they labour so incessantly that almost no time remains for the cultivation of their moral and intellectual powers, and for that repose of mind and exercise of body which are indispensable to health. Hence arises indigestion and numerous cruel diseases; and many persons, even after they have succeeded in obtaining wealth, are tormented with uncomfortable and discontented feelings. Mr. Combe strengthens the foregoing observations with an extract from Dr. Caldwell's excellent work on "Physical Education," which we transcribe as especially meriting the profound attention of medical philosophers.

This highly talented and zealous philanthropist* explains, in some forcible remarks, "the tendency of the embroilment of party politics and religious differences to over-excite the brain and produce insanity, and also dyspepsy, which is more allied to insanity than is commonly supposed. So true is this, that the one is not unfrequently converted into the other, and often alternates with it. The lunatic is usually a dyspeptic during his lucid intervals; and complaints, which begin in some form of gastric derangement, turn, in many instances, to madness. Nor is this all. In families where mental derangement is hereditary, the members who escape that complaint are more than usually obnoxious to dyspepsia. It may be added, that dyspeptics and lunatics are relieved by the same modes of treatment, and that their maladies are induced, for the most part, by the same

* This eloquent and truly practical work was originally published at Boston in America, in 1834; and, with some additions by the author and editor, it was republished in Edinburgh with the title—*Thoughts on Physical Education, and the True Mode of Improving the Condition of Man; and on the Study of the Greek and Latin Language; by Charles Caldwell, M.D. Professor of the Institutions of Medicine and Clinical Practice in Transylvania University. With Notes by Robert Cox, and a Recommendatory Preface by George Combe; 12mo. Edinburgh, and London, 1836.*

causes. The passions of grief, jealousy, anger, and envy, impair the digestive powers; and dyspepsia is often cured by abandoning care and business, and giving rest to the brain. It is chiefly for this reason that a visit to a watering-place is so beneficial. The agitations of commercial speculations and too eager pursuit of wealth have the same effect with party politics and religious controversy in over-exciting the brain; and hence, in all probability, the inordinate extent of insanity and indigestion in Britain, and still more in the United States.

Two objections are generally urged against these admirable prophylactic rules (we are not dealing with therapeutics at present)—these, in Mr. C's words, are obviously, the dictates of reason. The *first* is—that persons, who are always taking care of their health, generally ruin it; their heads are filled with hypochondriacal fancies and alarms, and they become habitual valetudinarians. Mr. C. replies to this objection, p. 84, with these indisputable observations:—

“All such persons are already valetudinarians before they begin to experience the anxiety about their health here described; they are already nervous or dyspeptic, the victims of a morbid uneasiness of mind, which, for want of other objects, is at last directed towards the state of their health. They are essentially in the right, however, as to the main cause of their distress, for their anxiety certainly does proceed from disorder of their organic functions. Their chief error lies in this, that their care of health proceeds from an anxiety without knowledge, and leads to no beneficial result. They take quack medicines, or follow some foolish observances, instead of subjecting themselves patiently and perseveringly to a regimen in diet, and a regular course of exercise, amusement, and relaxation,—the remedies dictated by the organic laws. This last procedure alone is what I call taking care of health; and I have never seen any human being become an invalid, or a hypochondriac, from adopting it. On the contrary I have known many individuals who, in consequence of this rational obedience to the organic laws, have ceased to suffer under the maladies which previously attacked them.”

The *second* objection is, that many persons live in sound health to a good old age; hence, it is the safest plan to follow their example, and act on all occasions as impulse prompts, never doubting that our health will take care of itself, if we follow this manly course. In reply to this too common misconception, Mr. C. observes, from manifest experience, that constitutions differ widely in the amount of their native energies, and consequently in the extent of wear and tear and bad treatment which they are able to sustain without being ruined; and that, for this reason, one individual may be comparatively little injured by a course of action which would prove fatal to another with a feebler frame:

Our moralist holds, for the grand principle of his philosophy—that the natural laws really admit of no exceptions.—and that specific causes, sufficient to account for the apparent exceptions, exist in every instance. In some of these supposed deviations from the rule, the individuals may have enjoyed a very robust constitution, which it was difficult to subvert: others may have indulged in excess only at intervals, passing an intermediate period in abstinence, and permitting the powers of nature to re-adjust themselves and recover their tone, before they committed a new debauch; others, again, may have led an extremely active life, passing much of their time in the open air—a mode of action which enables the constitution to

withstand a greater extent of intemperance than it can resist with sedentary employment. Now, of one and all these persons, Mr. C. affirms without hesitation—that, if they had obeyed the organic laws, they would have lived still longer and more happily than they did by infringing them. In the course of his own observations, and ours is in entire accordance with them, he has never known an individual proceed perseveringly in a course of intemperance, either sensual or mental—that is, who habitually overtasked his stomach or his brain—who did not permanently ruin his health, usefulness and enjoyment. It has long been our confirmed opinion, that most of the evils of life proceed from ignorance, improvidence and profligacy.

On this head, Mr. Combe's last observation is remarkable for its truth and impressive simplicity: we would therefore bring it prominently under the attention of our readers, particularly the least experienced.

"With regard to health," he says, "Nature may be said to allow us to run an account-current with her, in which many small transgressions seem at the time to be followed by no penalty, when, in fact, they are all charged to the debit side of the account, and, after a lapse of years, are summed up and closed by a fearful balance against the transgressor. Do any of you know individuals, who, for twenty years, have persevered in frequent feasting, who all that time have been constant diners out or diners at home, or the soul of convivial meetings, prolonged into far advanced hours of the morning, and who have resisted every warning and admonition from friends, and proceeded in the confident belief that neither their health nor strength was impaired by such a course? Nature kept an account-current with such men. She had, at first, placed a strong constitution and vigorous health to their credit, and they had drawn on it day by day, believing that, because she did not instantly strike the balance against them and withdraw her blessing, she was keeping no note of their follies. But mark the close. At the end of twenty years, or less, you will find them dying of palsy, apoplexy, water in the chest, or some other disease clearly referable to their protracted intemperance: or, if they escape death, you will see them become walking shadows, the ghosts of their former selves—in short, the beacons set up by Nature to warn others that she does not in any instance permit her laws to be transgressed with impunity. If sedulous instruction in the laws of health, would not assist the reason and moral and religious feelings of such persons to curb their appetites, and avoid these consequences, they must be reckless indeed. At least, until this shall have been tried and failed, we should never despair, or consider their case and condition as beyond the reach of improvement."

By the admission of our benevolent prophylactist, the dangers arising to health, from improper social habits and arrangements, cannot be altogether avoided by the exertions of individuals acting singly in their separate spheres. He remarks emphatically, that the great precept of Christianity—**WE MUST LOVE OUR NEIGHBOURS AS OURSELVES**—is inscribed in every line of our constitution; and, in consequence, we must render our neighbours as moral and intelligent as ourselves, before we can reap the full reward of our own knowledge and attainments. He enforces this principle by a practical illustration, and then proceeds to show the reasonableness and necessity of its application in active life. We must, therefore, he declares, produce a general conviction among the constituent members of society, that Providence forbids that course of incessant action which obstructs the path of moral and intellectual improvement, and leads to mental and corporeal suffering. We must farther induce them, by a simultaneous movement to apply an effectual

remedy in a wiser and better distribution of the hours of labour, relaxation, and enjoyment. Every one of us can testify, he affirms, that this is *possible*, so far as the real, necessary, and advantageous business of the world is concerned; for, he continues, we perceive that, by a judicious arrangement of our time and our affairs, all *necessary business* may be compressed within many hours fewer than we now dedicate to that object, so as to allow us a reasonable space for mental cultivation, exercise and amusement. Mr. Combe considers eight hours a-day an ample allowance of time for business and labour: this would allow eight hours more for enjoyment, and eight for repose, a distribution that would cause life to flow more cheerfully, agreeably, and successfully, than it can do under our present system of ceaseless competition and toil. We fear, indeed we are certain, that this will be very unpalatable doctrine to our manumonian idolatists, who, unfortunately, are too numerous and too influential; the day will come, however, when our posterity must succeed in gaining this boon for themselves and their families; and of this also we feel well assured, that the "labouring classes" will owe the advent of this millenium, in a chief degree, to the zeal and knowledge of medical philanthropists.

We should fail of doing justice to the excellent prophylactical philosophy, which we have endeavoured to place before our readers, in the preceding exposition, were we to omit the author's deductive summary of his doctrine. On p. 90-1, it is recorded as follows:—

"It appears, then," he concludes, "that the foregoing considerations, that the study and observance of the laws of health is a *moral duty*: this conduct being clearly revealed by our very constitution as the will of God, and being, moreover, necessary to the due discharge of all our other duties. We rarely hear from divines an exposition of the duty of preserving health, founded on our natural constitution: because they confine themselves to what the Scriptures contain. The Scriptures, in prescribing sobriety and temperance, moderation and activity, clearly coincide with the natural law on this subject; but we ought not to study the former to the exclusion of the latter; for, by learning the structure, functions, and relations of the human body, we are rendered more fully aware of the excellence of the scriptural precepts, and obtain new motives to observe them in our perception of the punishments by which, even in this world, the breach of them is visited. Why the exposition of the will of God, when strikingly written in the book of Nature, should be neglected by divines, is explicable only by the fact, that when the present standards of theology were framed, that book was sealed, and its contents were unknown. We cannot, therefore, justly blame our ancestors for the omission; but it is not too much to hope that modern divines may take courage and supply the deficiency. I believe that many of them are inclined to do so, but are afraid of giving offence to the people. By teaching the people to disregard all natural institutions as divine, because they proceed from the Creator, this obstacle to improvement may, in time, be removed, and religion may be brought to lend her powerful aid in enforcing obedience to the natural laws."

Holding them to be closely connected with health, the author proceeds to consider the subject of amusements, regarding which much difference of opinion prevails. When we have no true philosophy of mind, he premises, this question becomes altogether inextricable, because every disputant ascribes to human nature those tendencies, either to virtue or vice, which suit his favourite theory. Philosophers, however, cannot make and

unmake mental faculties and their organs, nor vary the functions and laws of action of these to suit different views, be they ever so ingenious. He next observes—that, by frequent and long continued action, every mental organ becomes fatigued, just as the muscles of the leg and arm grow weary by protracted exertion. Indeed, it cannot be conceived that the mind is susceptible of fatigue at all, except through the organs. We can comprehend how the fibres of the organ of tune may become exhausted by a constant repetition of the same action, and demand repose; but, he concludes impressively the idea of an immaterial spirit becoming weary, is altogether inconceivable. From this law of our constitution, therefore, it is plain that the all-good and all-wise Creator intended variety of employment to be essential to our welfare. Hence He has graciously bestowed on us a plurality of faculties, each having its own peculiar organ, so that so many rest, while others are actively employed. Now, among these various faculties and organs, there are several which appear obviously destined to contribute to our amusement; “a circumstance,” as Addison has remarked, which sufficiently shows us, that Providence did not design this world should be filled with murmurs and repinings, or that the heart of man should be involved in gloom and melancholy.” Mr. Combe adds this illustration of his doctrine:—

“We have received a faculty of the ludicrous, which, when active, prompts us to laugh and to excite laughter in others. We have received organs of tune and time, which inspire us with the desire, and give us the talent, to produce music. Our organs of voluntary motion are so connected with these organs, that when we hear gay and vivacious music played in well marked time, we instinctively desire to dance; and when we survey the effect of dancing on our corporeal frame, we discover that it is admirably calculated to promote the circulation of the blood and nervous influence all over the body, and thereby to strengthen the limbs, the heart, the lungs, and the brain; in short, to invigorate the health, and to render the mind alert, cheerful, and happy. To such of my audience as have not studied anatomy and physiology, and who are ignorant of the functions of the brain, these propositions may appear to be mere words or theories; but to those who have made the structure, functions, relations, and adaptations of the vigorous organs a subject of careful study and contemplation, I feel assured that they will appear in the light of truths. If such they are, our constitution proves that amusement has been kindly intended for us by the Creator, and that therefore, in itself, it must be not only harmless, but absolutely beneficial.”

This most instructive lecture concludes with an admonition and rules to distinguish between the use and abuse of natural gifts; with a “line of demarcation,” between the use and abuse of the stage and the fine arts; and with an exhortation to “try all things,” to maintain virtue as well as knowledge, to discern it. If then, the Creator has constituted our minds and bodies to be benefited by amusements; has given us faculties specially destined to produce and enjoy amusement; and has assigned a sphere of use and abuse to these faculties as well as to others; it is clearly injudicious in the amiable, the virtuous, the charitable and the religious—in persons meriting our warmest sympathy and respect—to place themselves in an attitude of hostility, and of open and indiscriminate denunciation, against amusements founded on the laws of our nature. Instead of bringing all the weight of their moral and intellectual character to bear upon the improvement and beneficial application of these institutions, as it is

obviously their duty both to God and to society to do, they fly from them as pestilential, and leave the direction of them exclusively to those whom they consider fitted only to abuse them. This, our philanthropist avers, is an example of piety and charity smitten with a moral paralysis through ignorance, and with a fatal cowardice through want of discipline.

While examining this prophylactic lecture, we have enjoyed an extreme satisfaction in contemplating the author's motives and object, his zeal and sincerity; and we would trust that the preceding sketches may prove instrumental in persuading many of our readers to investigate the principles on which his doctrine is founded. Should any one ever have entertained a doubt of its truth and value, as a medical principle, they will here find abundant reason for concluding that the *Preservation of Bodily and Mental Health is a Moral Duty*.

We must defer our review of Dr. Combe's "Notes on the Americans" till our next.

RAMBLES IN EUROPE, IN 1839. WITH SKETCHES OF PROMINENT SURGEONS, PHYSICIANS, MEDICAL SCHOOLS, &c By *W. Gibson, M. D.* Professor of Surgery in the University of Pennsylvania, &c. Octavo. Philadelphia, 1841.

THESE light sketches—or "pencilings by the way"—are evidently by a practised hand—the emanations of a mind possessed of quick perception and facile delineation. Dr. Gibson seems to have been determined to furnish a strong contrast to some of our own tourists who travel from Niagara to New Orleans, their pens or pencils dipped in the bile that was stirred up by the transatlantic voyage. We will not assert that our good-natured confrere has not fallen a little beyond the—

Certi denique fines

Quos citra vel ultra nequeat consistere rectum,

dipping his plume to often in the finest copal varnish, and diffusing the flattering unction rather too freely over every character with which he comes in contact. Certainly a more kind-hearted traveller and painter never traversed the old world from beyond the western wave. The Doctor was evidently predetermined to be pleased with everything—or at least every person—that met his eye on the banks of the Thames, the Forth, the Liffey, and the Seine. These likenesses, though almost always flattered, are never caricatured. The features and forms can never be mistaken, though the colouring is often higher than Nature acknowledges. Take, for example, the following excellent sketch of our departed friend—

SIR. A. COOPER.

"Imagine a tall, elegant formed man, moderately robust, with a remarkably pleasing and striking countenance, red, and fresh as a rose, apparently about fifty-eight or sixty years of age, but in reality, above seventy, very agile and graceful in all his movements, simply, but handsomely attired, with the spirit

and vivacity, and bearing of a youth, with, in short, no marks of advanced age, except a head as white as the driven snow,—and a very just conception may be formed of the appearance of Sir Astley Cooper."

Sir B. Brodie's portrait is equally tranchant.

"His appearance was altogether different from what I had supposed; for, instead of being full, stout, and ruddy, as most Englishmen are, I found him thin, pale, and, seemingly, delicate and dyspeptic; the result, however, as it struck me, of hard professional work, mental as well as corporeal, rather than of natural feebleness of constitution. His countenance was pensive, and verging towards a melancholy cast, but the moment he spoke it was lighted up by a smile, so peculiarly winning and attractive, so strikingly benignant and intelligent, as (added to uncommon softness and sweetness of voice, with manners so gentle, unpretending and free from assurance or arrogance,) to be calculated, I thought, to captivate, irresistibly, the most fastidious taste." 22.

We can only make room for one or two more sketches.

MR. LAWRENCE.

"I had not enquired about his personal appearance, and was, therefore, particularly struck, upon entering his study, with his fine, manly figure; his open, expressive, intelligent countenance; his large and well proportioned head; his lofty and expanded forehead; his clear and brilliant complexion; his mild, but sparkling, gray eye; and then when he spoke in a tone so quiet, modest and unassuming, with a manner so gentle and conciliating, and expressed himself so kindly and affectionately towards our country—its institutions and citizens—I could not but feel I stood in the presence of a superior being, could almost imagine I had known him all my life, and warmed towards him insensibly, as if he had been an old, long-tried, and intimate friend." 26.

MR. GUTHRIE.

"In outline, Mr. Guthrie's face resembles slightly that of the late Dr. Physick—his countenance is animated and expressive, and full of good-humour and benevolence. He is, indeed, universally considered, I believe, to possess the most amiable feelings, but when roused by opposition, or cross-examined in courts of justice, is said to be so keen, searching, sarcastic and witty in his observations and replies, as to silence, in a short time, the most talented members of the bar. His stature is about the medium height—his form muscular, inclining to *embonpoint*, well turned, if not decidedly handsome, and his whole air and bearing lofty; but his manners, at the same time, so free, easy, engaging and devoid of affectation, as to gain, irresistibly, the confidence of strangers, and secure, in a short time, their attachment." 31.

Our author was agreeably disappointed with Mr. Liston, having heard that he was "eccentric, rough, and uncouth in his manners, and a perfect *ursa major*, upon whose humor there could be no dependence." We have known Mr. Liston a great many years, and certainly we formed a very different estimate of his character. Dr. Gibson soon found that he had been egregiously misinformed respecting this eminent surgeon.

"Such misrepresentations are, no doubt, to be traced, in some instances, to the apparent eccentricities of Mr. Liston; for though, seemingly, of robust frame and great strength of constitution, he is so solicitous of preserving his health, and is so confident of the value of active exercise on horseback, as for a long time to have kept hunters and a pack of hounds, which, while he lived at Edinburgh, he exercised at day-break, and long before most of his brethren were out

of bed. It is said he has now abandoned the sport, having fractured his pelvis, and nearly broken his neck at some inordinate leap, and since that period has followed the exercise of a boatman on the Thames, by rowing every morning several miles before breakfast. He has a passion for domestic animals—horses, dogs, and cats. His enormous black cat, *Tom*, is almost as well known in London as Liston himself, being, not unfrequently, mounted alongside his master in the splendid chariot, and a constant guest at his hospitable board, where I had the honour of forming his acquaintance, by finding his foot in my soup before aware of its proximity to my plate." 35.

In this good humored way Dr. Gibson sketches most of the prominent medical characters in the three capitals of the British Isles, as well as in Paris—interweaving numerous sensible remarks on the various institutions which he examined. The work is very amusing, and will have a most extensive circulation, especially in the United States. This volume furnishes innumerable proofs of the talent, acquirements, and liberality of its author.

REPORT UPON THE MORTALITY OF LUNATICS. By *William Farr*, Esq. F.S.S. Read before the Statistical Society of London.

MR. FARR is well known to all our readers as a very zealous and able cultivator of medical statistics. The Report before us is as creditable to his diligence and judgment as its predecessors, and has been drawn up, we perceive, at the request of the Council of the Statistical Society. It is founded on the Reports of the Hanwell Asylum, Returns from the Bethlem Hospital, and the valuable series of tables submitted to the Society last year by Colonel Sykes. It was thought desirable that the mortality of lunatics in two of the largest public institutions of the country, should be compared with the mortality in the licensed proprietary houses; and that if the mortality differed, the differences should be investigated, and traced, to their causes, by the methods of statistical analysis which we now possess.

We shall present a pretty full account of this Report, as we think it likely to prove serviceable, more particularly as Mr. Ewart has given notice of his intention to move in the House of Commons for the appointment of a fresh Committee to inquire into the management of the Asylums.

The persons of unsound mind in England amount to several thousands. They are usually of middle age, frequently parents, and are of all conditions and ranks of life: 494 lunatics confined under the Crown possess property yielding an annual income of 317,154l.* 6,402 idiots, and 7,265 lunatics, have been returned to Parliament as paupers.

"Great improvements have taken place in the treatment of lunatics. In the best asylums they are no longer shut up in cells like wild beasts, nor punished

* See Parliamentary Return, Session 1839, No. 378.

by harsh keepers. Their chains have gradually been struck off. A further step has been attempted. At the Middlesex Asylum no strait-waistcoats, straps, or other instruments of personal coercion have been used since the 21st of September, 1839. The experiment was first tried at Lincoln, and it is now contended by persons of experience, ability, and integrity—by Mr. Hill, Dr. Conolly, and the visiting justices of Middlesex,—that in a house properly built, with skilful medical supervision, and a sufficient number of humane and intelligent keepers, personal coercion should be abolished. This is denied by other gentlemen of equal humanity, who maintain that although all restraint *may* be dispensed with, the strait-waistcoat should still be employed as a remedy in the paroxysms of mania. A keen controversy has been waged on the subject. Asylums not only differ widely in the extent to which restraint is carried, but in the space allotted to patients, in their employment, food, and medical treatment. The cost of criminal lunatics at Bethlem is 15s. a-week; of idiots or lunatics in the workhouses, 2s. 10d. to 3s. 6d. a-week. Some of the asylums are under the control of the visiting justices, others are visited by the Metropolitan Commissioners; the hospitals of Bethlem and St. Luke are not visited at all, but are managed by the officers and governors; while a very large number of lunatics are farmed out, or confined in workhouses, by the parish authorities." 2.

Amongst so many systems the determination of the best can only be effected by a comparison of their results—in fact, of the recoveries and deaths.

The number of lunatics and dangerous idiots under confinement in Middlesex, and in the parts of Surrey and Kent within the jurisdiction of the Metropolitan Commission, is about 3,110, and the following was their distribution in 1839:—

	Males.	Females.	Total.
In the Asylum at Hanwell .	346	488	834
Bethlem Hospital . . .	148	151	299*
St. Luke's	104	136	240
Guy's . . . . .	....	24	24
34 Licensed Houses . .	787	926	1,713
Total	1,385	1,725	3,110

450 men, and 419 women in the licensed houses are not paupers; and many persons insane in different degrees remain at home under the care of their friends. The London workhouses contain a considerable number of idiots and lunatics. Exclusive of these 3,110 persons, others are confined as lunatics in the public institutions of the metropolis. When it is considered that insanity is a long disease, which not only disables the patient, but often renders him difficult to control, and dangerous to himself and to society, the fact that 7 in 10 of the 3,100 lunatics fall upon the public for support and treatment, will not be deemed surprising.

The Hanwell Asylum was opened on May 16th, 1831, and the number

* Exclusive of 16 out on leave.

of lunatics admitted in the $9\frac{1}{2}$ years, ending September 30th, 1840, as shewn in the following Table, was 2,029; the number discharged was 1,171; of whom 449 had recovered, 66 had been relieved, and 656 had died: 858 remained in the asylum. More than *half* the patients die in Hanwell, and more than *one-third* are cured.

	Men.	Women.	Total.
Admitted from 16th March, 1831, to } 30th September, 1840..... }	1013	1016	2029
Discharged during the { same period, viz..... {	Cured..... 223 Relieved.... 42 Died 374	225 24 282	449 66 656
Total.....	639	532	1171
Remaining on 30th September, 1840...	347	484	858
Proportion in 100 of patients discharged, viz—			
Cured.....	37.	42.	38.
Relieved.....	7.	5.	6.
Died.....	58.	53.	56.

It has been a question whether the deaths should be divided, as in this case, by the 2,029 patients admitted, or by the 1,171 discharged, in order to obtain the mortality of the cases. It is evident that the latter is the true divisor; for, if the mortality remained the same, the probability is that the 858 patients *to be discharged* would, *ceteris paribus* be discharged cured, relieved, and dead, in the same proportions as the 1,171 already discharged.

The average number of lunatics in the Hanwell Asylum, since it was opened, has been about 589, or 250 males and 339 females.

The deaths in the $9\frac{1}{2}$ years ending 30th September 1840 were 656 (males 374, females 282); and the insane population out of which they occurred was = 5,498 living one year; the males 2,334, and females 3,164. The average number of males resident was = 250, and 250×9.34 years, the term of residence, = 2,334 years of life. The *annual mortality* of the men was 15 per cent., of the women 9 per cent., and of the whole population, without distinction of sex, 12 per cent.

The mean term of residence in the Middlesex Asylum is 4.48 years—an approximation to the average term of treatment.

From Tables which he submits Mr. Farr observes, that nearly equal numbers of men and women are admitted at the County Asylum, (males 1,013, females 1,016); but that the number of women resident is 36 per cent. greater than the number of men (females 339, males 250); because women remain there about 6 years on an average, and men nearly 3.7 years. The men are discharged more rapidly than the women, both by death and recovery. 11 men per cent. were annually discharged cured, or relieved; and only 8 women. This distinction will explain many anomalous facts; and it should always be taken into account in estimating the prevalence of diseases. Thus there may be ten times as many lunatics in civilized, as in barbarous countries and times; not because the tendency to insanity is greater, but because the lunatics live ten times as many months,

or years. The tendency to insanity in a class is expressed by the proportion that become insane.

Mr. Farr next compares the licensed houses with the Hanwell Asylum. It seems that out of 100 cases in the licensed houses, there were 30 deaths, while out of the same number of cases in the Hanwell Asylum there were 56 deaths. But it was the reverse with the annual mortality per cent. The annual mortality per cent. at Hanwell was to that in the licensed houses as 100 to 130. For various reasons the patients remain longer in the Hanwell Asylum than in the licensed houses, from which 37 per cent. were annually discharged alive; while 9.4 per cent. were discharged annually, cured and relieved, from the County Asylum. The number admitted during the six years, June 1833-39, into the licensed houses was 5,386; making 278 more than 5,108, the number discharged by death, recovery, or otherwise. There were 1,435 in the licensed houses on the 30th June, 1833, and 1,713 on the 31st of May, 1839. The number of inmates had increased 19 per cent., and, notwithstanding the erection of Hanwell, the increase bore principally upon paupers, for 202 of the 278 were paupers. Mr. Farr compares these paupers with the paupers in Hanwell.

The comparative mortality was as follows:—

	Annual Mortality per cent.	Deaths out of 100 cases discharged.	Mean term of treatment, in years.
Paupers in Licenced Houses....	21	35	1.67
" Hanwell	12	56	4.48
Other patients in the Licensed Houses	11	23	2.15

The annual mortality of paupers in the licensed houses is thus shewn to have been excessive; in fact, the annual mortality of both male and female paupers in the licensed houses was *nearly twice as great as the mortality of the paupers at Hanwell, and twice as great as the mortality of other lunatics in the licensed houses.*

It appears that of the licenced houses four are large, the remainder small. Each of the four large houses contained 265 patients on an average, and the annual mortality was 19 per cent.; in the small houses, containing 17 lunatics on an average, the mortality was 9 per cent., and the annual mortality in the four houses increased with the number of lunatics. It was 16 per cent. in the house No. 18; 18 per cent. in Nos. 32 and 33; and 23 per cent. in No. 35. Of the higher classes of patients, 26 in 100 cases perished in the large houses, and 21 in 100 in the smaller houses, where the term of treatment was somewhat longer.

"What is the mortality among lunatics in favourable circumstances? Is insanity a fatal disease?—Upon the latter question there has been a considerable diversity of opinion. Some lunatics live to an advanced age. Of 213 admitted by Dr. Conolly at Hanwell, 15 were aged 60 and upwards, 1 was between 75 and No. 85.

80; and 58 in 753 at Hanwell had been labouring under the disorder between 20 and 50 years. In 1835 an action (*Fisher v. Beaumont*) was brought at the York Assizes to recover from the *Providence Assurance Company*, £2,000, insured upon the life of the Rev. Mr. F——. In charging the jury, the judge said that they had to consider whether insanity had a tendency to shorten life? If insanity had such a tendency, they must find for the defendant; if not, for the plaintiff. The medical evidence was conflicting; and the jury, after a short deliberation, found for the plaintiff, on the ground that insanity had no tendency to shorten life!*

"We have no means of ascertaining the mortality of lunatics at large; but the mortality of lunatics in asylums is much higher than the mortality of the general population, and the excess cannot be ascribed entirely, although it may partially, to the confinement, the unwholesomeness, or the usages of mad-houses. The mean age of lunatics in asylums is about 35-40. The average age of the patients admitted at Bethlem, (1830-34) was 36 years (36·2); and the mean age of 213 admitted at Hanwell by Dr. Conolly was 36½. The mortality at the age 30-40 is 1·2, and at 40-50 is 1·5 per cent. in England and Wales. In cities the mortality at a corresponding age is not more than 2 per cent. annually. Now the annual mortality at Bethlem, where dangerous cases are carefully excluded, was 9 per cent., in 1827-39. At Gloucester, one of the country asylums, at which the treatment is most successful, the diet is generous and nutritious, and the patients live as much as possible in the open air,—the annual mortality is 7 per cent.

The annual mortality of severe cases of insanity cannot, I think, in favourable circumstances, be less than 6 per cent; so that the mortality is three times greater among lunatics, than among the general population, at the same age. We have seen, however, that the annual mortality among the better class of patients in the licensed houses was 11 per cent., among paupers at Hanwell 12 per cent., among paupers in licensed houses 21 per cent., and among pauper men at one licensed house 27 per cent.;—as high as the rate of mortality experienced by the British troops upon the western coast of Africa, and by the population of London when the plague rendered its habitations desolate!" 8.

Mr. Farr inquires,—To what is this excessive mortality referable, to the disease or to the treatment? In answer, he alludes to several facts.

1. The visiting justices of Hanwell states as "an extraordinary and disgraceful fact," that numbers of patients are sent into the asylum, as it would seem, to die. Of 656 deaths, 64 occurred within a month after admission. A similar complaint is made at many hospitals; and there is probably a tendency to send dangerous cases, or cases in their most critical stage, to public institutions. The exclusion of such cases from Bethlem reduces the mortality, but they cannot all be excluded without giving the asylums the advantages of that *selection*, which is so profitable to Assurance Offices. For in a disease so fatal as insanity, a certain number of lunatics are necessarily on the verge of death at the period of the disease when admission into an asylum is usually sought; and a due proportion of such cases cannot fairly be excluded.

Reference has also been made to the fact that out of 834 patients in Hanwell on December 31st, 1839, about 655 had been in other asylums, or workhouses, for considerable periods. Many cases were admitted in the chronic stages of insanity; but this, though it will account for a smaller number of recoveries, and the high proportion of fatal cases, will not account for a high *annual rate* of mortality. The *annual rate* of

* Medical Gazette, August 8th, 1835.

mortality is greater in the acute than in the chronic stage of insanity. Thus at the hospitals of Bethlem and St. Luke the annual mortality among the class called "curables" was 11 per cent., and only 6 per cent. among "incurables" (chronic cases). At Hanwell the annual mortality of lunatics in the state of mania, monomania, or melancholia, appears so far as it can be determined, to be about 12 per cent., while in the cases of incoherence, imbecility, or dementia, (chronic stages of insanity,) about 8 per cent. die annually.

2. Mr. Farr pursues a batch of patients in the Hanwell Asylum through a period of $7\frac{1}{2}$ years, and notes the deaths that successively occurred in each half year. The following are some of the main particulars.

The numbers stated to have been *relieved* were 14 per cent. of the numbers *cured and relieved*; and as the proportion remained nearly the same through the seven years, the two classes of facts have not been distinguished.

The annual rate of recovery in the *first half-year* was 24 per cent.; and the rate of mortality was nearly 25 per cent. The two rates remain high in the *second period* (the rate of recovery 16, and of mortality 14, per cent.), while they declined respectively to 3, and to 8 per cent. in the *third period*; and 2.3, and 7.0 per cent. annually, between the $5\frac{1}{2}$ and $7\frac{1}{2}$ years after admission into the asylum.

The rate of mortality, continues Mr. F., in an unit of time increases as the malady advances up to a certain point, and then declines regularly, in all diseases which have hitherto been investigated arithmetically. And this law regulates insanity. At Hanwell, 18 in 100 living die annually in the first $1\frac{1}{2}$ year; and 8 in 100 annually for 6 years afterwards. If an asylum, therefore, contained none but persons in the first year and a half of the disease, (after admission is always understood,) the mortality would be 18 per cent.; while it would be 8 per cent. in an asylum for chronic cases between $1\frac{1}{2}$ and $7\frac{1}{2}$ years. Without implying any disparagement to the treatment in the former case, the rate of recovery in the two asylums would differ in a still greater degree, as it would be 19 per cent. in the first asylum, and only 3 per cent. in the second, set apart for the exclusive reception of the advanced cases. This separation seldom takes place in practice. The chronic and acute cases are always mixed in an institution like Hanwell; but it is evident that in the first years after it was opened, the proportion of cases in the early stages must have been greatest, and the proportion of lunatics in advanced periods of the disease must have since progressively increased. According to the above laws, the proportion of deaths and recoveries should gradually have declined, and this was the fact.

The annual mortality was 17 per cent. in the first three years and 10 per cent. in the last three years; the annual rate of recovery was 14 per cent. in the first, and 8 per cent. in the last period. In the licensed houses which have been many years in existence, the annual rate of mortality was 13.6 per cent. in 1833-36, and 17.2 in 1836-39.

After some observations, Mr. Farr constructs a table of mortality and recovery for lunatics.

NOSOMETRICAL TABLE.

No.	Period of the Disease dating from the day of Admission.	The Number of Lunatics who			Cases terminating in each Period.		
		Enter upon each Period.	Will Recover	Will Die Insane.	Total Number.	By Recovery.	By Death.
	Years.	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>
1	0	1,000	380	620	217	108	109
2	0.5	783	272	511	213	112	101
3	1.5	570	160	410	61	21	40
4	2.5	509	139	370	48	12	36
5	3.5	461	127	334	43	11	32
6	4.5	418	116	302	41	11	30
7	5.5	377	105	272	35	6	26
8	6.5	342	96	246	32	8	24
9	7.5	310	88	222	..	..	..

If we take 1,000 lunatics at the stage of the disease corresponding to the time of admission at Hanwell, 216 will be discharged (108 recovered or relieved, and 109 dead) in the half-year following, leaving 785 to enter upon the second period, to be reduced year by year, until at the end of $7\frac{1}{2}$ years only 310 remain. The range of the present series of observations extends no further, but the relative proportion of recoveries and deaths remains nearly as 88 to 222 during the last six years; and to complete the scheme of the table it may be assumed that 88 of the 310 will recover, and 222 will die. The columns *b*, *c*, shew, therefore, that of 1,000 cases, 380 will recover, and 620 die; that at the end of $1\frac{1}{2}$ year, 160 will recover, and 410 will die.

The *the mean future duration of insanity, or the expectation of disease*, cannot be deduced from the preceding table, because it breaks off at the end of $7\frac{1}{2}$ years; but if the annual rate continued the same (1.10), 7 of 310 would remain insane 40 years, and the mean future duration of insanity at the period of admission at Hanwell would be 6.7 years; at the end of half a year it would be 8 years; and after $1\frac{1}{2}$ year, it would be ten years.

In the six years 1833-39, when the inmates were = 3 875 living 1 year, 706 were discharged; one in 5.5 therefore was discharged annually. If the institution had existed several years, and the numbers admitted and discharged had been equal, the mean duration would have agreed with this, and have been 5.5 years; but as Hanwell was opened in 1831, and only 1,179 out of 2,029 admitted, had been discharged on the 30th September, 1840, the 6.7 years is probably nearer the true mean duration.

Dr. Conolly ascertained the previous duration of the disorder in 191 cases (exclusive of 10 congenital cases) admitted during the year; 66 had been labouring under the disease less than six months; 26 between 6 and 12 months; 24 between 1 and 2 years; and 1 had been insane 39 years. The mean previous duration was 3.4 years. But, as little more

than *half* the number had been insane *twelve months*, the time of admission may be represented by 1, or $1\frac{1}{4}$ year.

The mean age of 213 persons at admission was $36\frac{1}{2}$ years; the mean age of 105 at the time of the *first attack* of insanity was stated to be $32\frac{1}{2}$ years.

The *probable future duration of insanity* is shewn, by table, p. 27, to be $2\frac{1}{2}$ years at the time of admission; for, in $2\frac{1}{2}$ years, the 1,000 cases are reduced to 509. The chances that a patient will, or will not, remain insane $2\frac{1}{2}$ years are 509 to 491, or nearly equal. Among those who remain insane half a year after admission, the probable future duration of the disease is nearly 4 years.

The *probability of recovery* at admission = $380-1000 = \cdot380$; of dying insane = $620-1000 = \cdot620$. Half a year after admission the probability of recovery is $272-783 = \cdot347$; of dying insane $511-783 = \cdot653$. The numbers in juxta-position, in columns *b* and *c*, express the respective chances of death and recovery; thus, $5\frac{1}{2}$ years after admission at Hanwell, the chances are 272 to 105 that a lunatic will *not recover*. All these probabilities depended more or less on the assumption that 88 in 310, remaining at the end of $7\frac{1}{2}$ years, will ultimately recover.

The *probability of recovery, or of dying* within any year, or years, up to $7\frac{1}{2}$ is accurately shewn by the table. In the first half-year the *probability of recovering* is $108-1000 = \cdot108$; the probability of recovering in $3\frac{1}{2}$ years is $380-127-1000 = 253-1000 = \cdot253$. Out of 1,000 cases, 253 recover in that time; hence $\cdot253$ is the probability of recovery. The *probability of dying* in the first half-year is = $109-1000 = \cdot109$; in the two years following $511-370-783 = 141-783 = \cdot180$.

From a table of this kind the lives of lunatics can be insured; and, from the present table, they may be insured for a limited number of years.

The table is an instrument by which the effects of treatment on the mortality—the number of recoveries—and the duration of all diseases, can be accurately measured. It enables us to compare two or three different plans of treatment, and to determine their effects upon the principal results at which all medical treatment aims—the reduction of the mortality, and of the duration of the disease. Thus if 139, of 509 lunatics that have been $2\frac{1}{2}$ years in Hanwell, will recover under the present treatment, and 200 recover under any new mode of treatment that may be introduced, the advantages of the latter would be obvious; and still more so, if the *probable duration* of the disease were reduced from 10 to 5, or 2, years.

As *age* advances, the mortality and the probability of recovery decline. The sex, says Mr. Farr, age and stage of the disease are the principal internal causes that influence the mortality, except the form of the disease which, exclusive of congenital idiocy, may be, perhaps, reduced to an element already discussed—the “stage of disease.” The influence of complications, of sex, and of age, may be assumed to be nearly the same in the licensed houses and Hanwell, as in ordinary asylums—the asylum, for instance, at Gloucester, where the mortality does not exceed 7 per cent. annually. The mortality of 7 per cent. may be fairly ascribed to insanity. The excess above this must be attributed to the diseases generated by the limited space in which the unhappy lunatics are confined—to the collection

of large numbers under the same roof—the impurity of the atmosphere—the want of exercise and warmth—the poor unvaried diet—and the deficiency of medical attendance.* But the influence of these agents can only be ascertained by a Parliamentary inquiry; and it will not be denied that the causes should be investigated which raised the mortality of lunatics above the standard—57 per cent. among private patients, 71 per cent. at Hanwell, and 200 per cent. among paupers in the large licensed houses.

Bethlem Hospital.—This differs essentially from the Hanwell Asylum, as well as from the majority of the licensed houses, in the stricter selection of patients for admission. By the rules the following cases are inadmissible:—lunatics who have been insane for more than twelve months; who have been discharged uncured from other hospitals; in a state of idiocy; afflicted with palsy, or with epileptic, or convulsive, fits; and suffering from any dangerous disease. Notwithstanding the instructions in the admission papers, the petitions of 58 out of 311 (19 per cent.) who applied in 1839, were rejected. The patients are not allowed to remain longer than one year. 253 lunatics admitted in 1836 had been insane 83 days, on an average; 117 had been insane less than a month.

It would be exceedingly interesting to determine the mortality of this selected class of lunatics for 12 months. But, if dangerous symptoms come on at Bethlem, the patients are dismissed, when practicable, as *improper objects*. Thus, of 3,026 discharged in 10 years, 829 were dismissed uncured, 483 as *improper objects*, and 145 dead. A great number of the “improper objects” would die soon after they left Bethlem; and their dangerous state, or supposed incurability, was the alleged cause of their dismissal. Paralysis, however slight, even of a finger, is the forerunner of death in the insane; and of 210 dismissed as improper objects (1831-36), 87 were paralytic, 69 “sick and weak,” 24 epileptic, 4 apoplectic, 2 had “fits,” and 28 were idiotic.

The lunatics at *Bethlem* are divided into three classes; “curables,” “incurables,” and “criminals.”

21 of the lunatics on the list of the hospital were constantly out on leave of absence; and during the 13 years, 122 individuals were discharged as “out on leave of absence.”

Of 100 “curable” patients discharged, 54.5 were cured, 5.2 died. The mean term of treatment was .589 year, = 7 months or .49 year, = 6 months, if the time spent out of the hospital, on leave of absence, be excluded. The lunatics discharged as “improper objects” were 14.5 per cent.; a considerable portion of whom would have been numbered with the dead if they had remained.

The *annual* mortality was 0.8; the recoveries 92. per cent.; 24.5 per cent. were discharged as improper objects, 63.4 were discharged uncured;

* The diet and the condition of lunatics at Hanwell have been latterly ameliorated very considerably by the Visiting Justices, at the suggestion of the present accomplished physician; and the mortality may be expected to be reduced in proportion. It is also right to state that in some licensed houses the mortality of private patients does not exceed 7 per cent.

2.1 were out on leave of absence. 171 were discharged annually out of a constant population of 100.

If the deaths which occur among those out on leave of absence are not recorded, the annual mortality to 100 resident in Bethlem is 10.5.

Incurables.—72 “incurables” were admitted; 72 discharged (33 men, 39 women), and the average number resident for 13 years was 64.2. The years of life were therefore $= 64.2 \times 13 = 834$. Nine incurables were cured, 39 died, and 24 were discharged at the request of their friends.

Of 100 cases 13 recovered, 33 did not recover, and 54 died. One in 11.6, $= 6$ per cent. were discharged annually; the mean term of residence was 11.6 years. 1 in 21, $= 4.7$ per cent. died, and 1 per cent. was cured annually.

“Incurables” is an improper term; but it is a recognition of the law that recovery is infrequent in advanced stages of insanity.

Criminals.—In the 13 years 71 criminal lunatics were admitted at Bethlem (56 men, 15 women); 51 were discharged, namely, 26 died, 2 escaped, and 23 recovered. The average number resident was 57.3, the years of life 745.

Of 100 cases, 45 recovered, 51 died. The annual rate of mortality was 3.5, of recovery 3.1 per cent.; the mean term of treatment deduced from the years of life, and the number discharged, was $14\frac{1}{2}$ years. The numbers admitted and discharged in the 11 years (1827-37) were nearly equal (36 and 39); and the years of life divided by the number discharged $= 653 \div 39 = 16\frac{7}{9}$ years.

It is evident that several of the criminals, such as Oxford, cannot properly be said to labour under insanity—in the sense of a disease. It is, if anything, like idiocy, a congenital misdevelopment of the brain.

The number of recoveries is considerable at Bethlem, but less than at some private asylums, notwithstanding the careful selection of cases. The mortality is reduced by excluding dangerous cases, and by dismissing the patients on the verge of death, as “improper objects.” It is difficult, under these circumstances, to account for the death of nine or ten in 100 annually, upon any other supposition than that the mortality is high at the early stage of the disease in Bethlem.

Admission and Discharge of Lunatics.—The last Committee of the House of Commons on Lunatics, stated in their report, “It has been clearly established in evidence, that there is no due precaution with respect to the certificates of admission, to the consideration of discharge,” or to the application of any curative process, to the mental malady.” Lunatics under confinement, it should be well recollected, are prisoners; and every one will admit that the depriving a man of his personal liberty, or turning loose a lunatic on society, are acts involving great responsibility,—a responsibility which, if it exist at all, is very imperfect in the present state of the law. In order to deprive a lunatic of his estates, a formal inquiry is publicly instituted; but a person who has been seven days chargeable to the parish may be committed as a lunatic to the County Asylum by two justices of the peace on the certificate of any physician, surgeon, or apothecary, asserting that the “said person appears to be insane of mind.” 2,780 pauper lunatics are confined under these certificates in the county asylums.

But there are 1,389 lunatics, and 7,007 idiots, "under the care of the parish officers as in door or out-door paupers." Many of them are necessarily under restraint, without either warrant or certificate; which is only required when the parishes think it necessary to send them to a public asylum, where their treatment costs two or three times as much as the work-house fare.

Paupers may be sent to licensed mad-houses by a justice, or by the officiating clergyman and overseer, with one medical certificate; and other persons may be sent to a licensed house by any layman, upon the certificates of *any two* medical men. It appears also that by law, any person whom the governors choose to admit as a lunatic, may be confined at Bethlem, or St. Luke's Hospital, for an unlimited time.

The liberation of persons in confinement as lunatics, takes place under no better regulation. Medical visitors have been appointed, in the words of Lord Lyndhurst, "to see that the Chancery lunatics are well cared for, but above all *to watch the least glimmering of returning sanity, and see that the parties are not detained one day longer than necessary.*" The relatives, parish-officers, proprietors, justices in petty-sessions, and the Metropolitan Commissioners release lunatics from the licensed houses; but the mode in which this is effected is by no means satisfactory. "When once," says Colonel Sykes, "they (pauper lunatics) get shut up in a mad-house, it is indeed difficult for them to regain their liberty." Lunatics are discharged at the discretion of the visiting justices from the county asylums; by the governors from Bethlem, St. Luke's, and other hospitals supported by subscription; and by the parish officers from workhouses.

Mr. Farr concludes—

"Many cases of abuse have occurred under the present system, which will be probably thought by the Society to require extensive alterations. And although there would be much difference of opinion on many points, all will probably agree that *no person should be placed under restraint as a lunatic in asylums, hospitals, or houses of any kind, who has not been examined by a public officer, practically acquainted with insanity.* I would therefore suggest that by some modification of the present system of inspection, the circumstances of every lunatic confined should be investigated personally by a crown officer, and recorded previous to committal, at the expiration of every quarter of a year after admission, and at the time of dismissal. The sex, and age, the stage, form and complications of insanity should be registered, on entering and leaving the several institutions, by impartial officers. This would be a protection to lunatics, and to the public; the deaths and recoveries would be registered on a uniform plan, and an invaluable statistical check on the results of treatment would be obtained."

- I. A MEDICAL GUIDE TO NICE—ALSO, OBSERVATIONS ON THE CLIMATE OF BAGNERES DE BIGORRE, as the most eligible Residence for Consumptive Patients. By *W. Farr*, M. D. 8vo. pp. 174. Churchill, 1841
- II. A WINTER IN THE AZORES ; AND A SUMMER AT THE BATHS OF FURNAS. By *Joseph Bullar* M. D. and *Henry Bullar*, of Lincoln's Inn. 2 Vols. 8vo. with Plates. J. Van Voorst, London, 1841.
- III. THE SANATIVE INFLUENCE OF CLIMATE, &c. By *Sir J. Clark*, Bart. 3d Edition, 1841.

"MEN run to and fro, and knowledge is increased." This year we have three treatises on the climates of Naples, Nice, the Azores, and Pyrennees—so that when we take in Madeira, Torquay, Clifton, Undercliff, Hastings, and the Cove of Cork, medical men will be not a little puzzled to determine on the spot which will most effectually prevent or cure phthisis in their patients. Experienced practitioners, and those who have visited the various localities in question, entertain very chastened hopes or expectations from the sanative virtues of climate in phthisical affections ; but the afflicted sufferers themselves are always sanguine, and it is necessary therefore, that the physician at home should know as much as possible of the climates abroad that are resorted to by the invalids. We must glance over the publications at the head of this article, and cull as much information from them as we can, for the benefit of our readers.

I. NICE.

It appears from Dr. Farr, that Nice was resorted to by the Roman invalid. Its climate has not changed for at least one hundred years past—and therefore we may suppose that it is nearly the same as it was two or three thousand years ago. It had once a reputation for the cure of phthisis—but "this reputation, experience has taught us, was not founded in fact."

"There is no doubt that the majority of pulmonary invalids either find no benefit from a residence at Nice, or go away with an augmentation of disease ; but it is a difficult task to point out any locality which will be favorable to every consumptive patient." 4

Dr. Farr still considers Nice a favorable residence for those on whom "this disease steals imperceptibly, as in scrofulous habits."

"For all others, the eastern coast of Spain, from Barcelona to Valencia, and Pau in France, are the best in Europe during the winter, and Bagnères de Bigorre, in the department of the High Pyrenees, in the summer." 4.

Dr. F. thinks that the climate of Nice places the patient under more favorable circumstances for treatment than colder climates—that it keeps up the action of the skin, relieving diseases of the heart and lungs—more

especially the former—and it enables the patient to pass at least six hours daily in the open air, by which he obtains amusement and salutary exercise, incompatible with an English winter. He grieves to say that most people go abroad with two objects in view—health and pleasure. In pursuing the latter, they too often risk the former. “They rush into society with an avidity—frequent crowded rooms—and after midnight, change a temperature above 80° for one often below 40° . The consequences are, rheumatism or neuralgia among the old—inflammatory affections of some vital organ, perhaps, among the young.”

There is considerable variety in the climate of Nice; but the locality under the range of the Cimiez hills, is the warmest part of the environs. “This is the spot for pulmonary invalids, for here they possess all the advantages of an inland climate, and yet, not being the fashionable quarter, it remains unfrequented.”

“It was at Cimiez that the Romans fixed themselves, and do we afford proof of superior wisdom in choosing our abodes in more exposed and less salutary situations? Nice has its advantages, and they are unheeded; its disadvantageous positions, and they are resorted to; the result is, that patients leave Nice no better, perhaps worse, than when they arrived, and leave it, terming it a detestable climate.” 9

The author thinks that it would be difficult to point out a spot in Europe more favorable than this for cases of phthisis, “or one where a well directed plan of treatment would have an equal chance of enabling the patient to *throw off the disease*.” Alas! we fear that few phthisical patients ever throw off their disease till they have shuffled off the mortal coil along with it. The grand objection urged against Nice is the dryness of the climate. But this dryness, though prejudicial in some diseases, is beneficial in others.

“The easterly wind prevails in the months of March and April: this wind sets in with the first moon in March, called by the natives the blood-red moon; it is severely felt by the invalid and those in delicate health; and even the strong feel and acknowledge its evil tendency. Last season the number of patients of all nations labouring under affections of the chest might have amounted to thirty; the great majority had materially improved their state of health up to this period, and they were daily to be seen, like butterflies in the sun, riding, driving and walking over hill and dale. I besought those whom I attended, and many that I did not, to quit Nice before the birth of this fatal moon: but they, confident in their amended health and strength, heeded not my counsel, and thought I had overrated the danger; they remained, and the day after this easterly wind began, of the thirty I only met one afterwards, and him I had often previously pronounced to have no disease of the lungs. Were it not for these winds, Nice would be perhaps the finest climate in the world: I do not mean for consumptive cases, but for many other diseases which I shall hereafter mention.” 17.

¶ We now come to the diseases benefited by the climate of Nice. Dr. Farr enters into some discussion on the nature of tubercles, and of their nidus. This dissertation we pass over, as almost entirely theoretical. Dr. F. thinks that he has succeeded not only in effecting absorption of tubercles, but in effecting a cure “*even after suppuration had existed for several months*.” In the warm and dry climate of Nice, “calomel may be tried with a fair chance of success.” He has seen it administered in doses of

five grains, night and morning, and continued for six weeks, without producing salivation. The preparation, however, which Dr. F. prefers, is the iodide of iron, which he exhibited, he says, both at Nice and Bagnères, de Bigorre, whose climates are the reverse of one another, with much benefit.

"The largest quantity I have given in a day at Bagnères, is twelve grains; at Nice, eighteen; but in one case, in which it was given in two-grain doses by a native practitioner, it produced, within a fortnight, great emaciation and debility: if however, it be properly administered, it may be continued for a period of six weeks, or even longer without any apprehension of dangerous consequences. It reduces the pulse often to the standard of health; the patient gains flesh, health, and strength, under its use; but it should never be given without the advice of some one accustomed to its exhibition: it should not be allowed to accumulate in the system, and to prevent this, purgatives should be from time to time administered. There is also another preparation of iron which I think I have occasionally used with advantage; this is a chlorate, or the golden drop of the Germans. But, previously to the exhibition of any medicine, either alone or in combination, given with a view to promote the absorption of tubercle, it is highly necessary that the secretions should be properly regulated, and not only that they be good and healthy, but that assimilation should be perfect: in short, that there should be no functional derangement of any organ save the lungs themselves.

"Only such cases of phthisis as are in their earliest dawn or invasive stage, when the disease is rather suspected than positively confirmed or established, should be sent here: to the latter stages of this malady, the dry, irritating nature of this atmosphere proves prejudicial, and hurries them faster to the tomb." 46.

In cases of scrofula, however, our author gives Nice the preference over all other climates in Europe. In all forms of chronic rheumatism and rheumatic gout, the same locality is eulogised by Dr. Farr.

"I shall briefly notice the other diseases in which benefit may be expected from a residence: these are—chronic bronchitis, accompanied with expectoration; chronic and even acute affections of the larynx, those, at least, which have demanded active treatment in England, generally suffer no inconvenience during their sojourn; humid asthma; dyspeptic cases which arise from want of tone in the stomach itself, or from indolent secretion of any organ concerned in the process of digestion; hypochondriacal affections generally; urinary calculi. In hydropic affections I can recommend it strongly: I arrived here last year with so much water in both my legs, that at night I could bury my fingers in them: in less than a month I threw away my bandages, which I had worn for at least three months; and this was entirely the effect of climate, for I employed no remedial means. I have seen several other cases which offered the same result. In secondary syphilis also, whether in the form of eruption or diseased bone, and indeed in eruptive diseases generally, the climate appears to be exceedingly favourable. I succeeded in one case, the brother of a native physician, whose face and nose were covered with what the French call *squamous dartre*, in the short period of twenty-five days; though he had tried every remedy, as suggested in Turin, Paris, and Germany, for a period of two years and a half: two years have now elapsed since his cure, and he still remains well. Diseases of the heart experience great relief; attacks of gout yield very soon to proper treatment; varicose veins; all cases of languid circulation unaccompanied by organic disease; the coughs of the climacteric period also." 57.

In the list of diseases in which the climate of Nice is prejudicial—Dr. F. places all or most cases of phthisis where the complaint is beyond the

invasive stage—dry bronchitis—dyspepsia attended with irritation—pre-disposition to apoplexy or hepatic affections, as also diseases of the kidneys or bladder.

BAGNERES DE BIGORRE.

This rather uninteresting town, of some seven thousand inhabitants, lies at the foot of the Pyrennees, on the French side, and its brilliant verdure resembles that of England in Summer, contrasting strongly with the burnt-up, dreary, and arid aspect of the Spanish side. The town is rather clean, for a French town, and each street has its murmuring rill running down its centre. The rides and walks about the town are very beautiful.

“Of all the walks, that on the Salut road is the most desirable for the pulmonary invalid; it has a gentle ascent for some distance, is shaded by magnificent poplars and is well calculated to try his strength, and exercise his lungs.” 95.

The great attraction of this place is its peculiar atmosphere, of no great extent, indeed, but sufficient to enable the invalid to take whatever exercise he requires, in every direction except one. The town stands on a bed of argillaceous rock, which being disintegrated by time and winds has the appearance of a wood. This remarkable locality extends, on the south, about a mile and a quarter from the town, and to about an equal distance northward and westward—a space large enough for the usual exercise of patients being near the Salut road and thermal springs; but for people in health, the Square or Place, is the best.

“In the climate of Bagnères it would appear one can live, as we are accustomed to do in England, upon a mixed diet of animal and vegetable, and can bear very well the strong wines of Spain; the wine found at Bagnères is excruciating; I should therefore counsel those who pass through Bordeaux, to secure a provision. The pulmonary patient may even require a small quantity of good claret.

The atmosphere of Bagnères is by no means a desirable one for those in health; one has only to look at the indigenous inhabitants of the soil to be satisfied of this fact: the generality of them, and particularly the working class, are sallow and unhealthy looking, and quite the reverse of handsome. The climate of Bagnères is a decided one; it is anti-irritating and moist, depressing to the healthy, and has a tendency to allay irritation in every organ; and the pulmonary invalid soon finds that this is the kind of atmosphere he ought always to inhale: to him it is decidedly beneficial from the beginning; he escapes what the healthy never fails to experience—the seasoning common to all decided climates, the functions of each organ are more quietly performed, and the organ itself is soon brought into so tranquil a state, that any change in its structure, originating in disease, has a fair chance of being removed by proper remedial means: he is, in fact placed in the best situation to be treated: climate, however favourable, rarely does more than this. A patient coming to Bagnères with serious disease and deranged structure of lung, will feel the beneficial influence of the climate while he remains, but, without treatment, he no sooner quits, than he finds his gain is not permanent; his sufferings return, and his disease is just in the state it was on his arrival; he is aware, too late, that he has lost a favorable opportunity, which the advance of disease may not permit a second time to be presented to him.” 99.

Dr. F. avers that the invalid subjected to "judicious treatment" goes away "permanently benefited by the removal of a portion at least, of diseased structure." This is a startling sentence, for what pathologist can expect such miracles—except in the hands of the bellows-mender in Hatton Garden?

The season at Bagnères is short—from the early part of June till the end of September. Then the thermometer falls to 50° in the evenings—and the Pulmonary invalid ought to depart for Pau or Rome. He strongly dissuades such persons from going to Nice. The thermal springs of this place, of considerable reputation in other complaints, have very little in pulmonary affections.

II. The second work on our list is chiefly occupied with the descriptions and remarks of general travellers, and therefore we must endeavour to cull out such portions as bear most on medical matters.

The Azores are comparatively little known to the people of this country, except by the St. Michael oranges, and their enormous onions. St. Michael's was the first foreign soil on which we placed our feet, and we have still a vivid recollection of its fine climate and luxurious vegetation. In the sixth Chapter, our authors take up the FURNAS, about twelve miles from Villa Franca, whither they repaired on the 29th day of December. The principal spring or Caldeira, is sulphurous, coming hissing and boiling out of the ground, and diffusing volumes of vapour through the air. It bubbles up through a loose bottom of broken rock, and like the Sprudel, sends up a small column three or four feet in height. The ground beneath trembles, and a pumping sound, like that of a powerful engine, is heard far below. It is evident that the ground is a calcareous crust, like that round the Sprudel, and may, one day, fall in! At a little distance from the principal Caldeira is a deep smoking pit, at the bottom of which the water is seen boiling furiously. A little way from this is a boiling cauldron of mud, of the "consistency and colour of the creamy sweepings of Regent-street." The vapour that rises from the burning soil is strongly impregnated with sulphureted hydrogen gas. The iron springs squirt the boiling water through the interstices of volcanic stones, covering them with a thick coating of bright orange rust.

"After looking at the caldeiras, we took our bath, and it certainly was never my good fortune before to bathe in an *invigorating* warm bath. It produced a feeling of strength instead of lassitude, and the skin seemed not alone to have been cleansed, and rendered most agreeably smooth, but to have been actually renewed." 117.

They afterwards took a draught of the iron spa, which sparkles with gas and smacks strongly of steel.

"Most invalids feel that before-breakfast existence is burdensome; but this bath and draught of liquid iron were as a breakfast in producing serenity and happiness, and were more than a breakfast in giving warmth and briskness, and a feeling of health, as of the flowing of younger blood through the veins; and instead of destroying the power of making another they rather increased it many-fold." 118.

The climate of the Furnas in January, is much like that of October in England—pleasant days, but cold mornings and evenings. The climate of Villa Franca on the corat is much milder and more equable.

"As soon as we began to descend the mountain towards the sea, we felt the change of climate, and much enjoyed the delicious warmth of the afternoon sun, whilst riding along the lanes near the coast. But although the climate of this town is nearly unexceptionable, I am not sorry that the English climate is unlike it; for, with the same warmth at home, instead of Englishmen being what they are, they would have grown up a race of lazy, donkey-riding paupers. It is impossible to live here and not to feel the influence of that spirit of laziness which seems to have settled over the island." 131.

Our authors kept a meteorological register of the climate of Villa Franca, during the months of December to April inclusive. In December, the medium heat was $58\frac{1}{2}^{\circ}$, range 4 degrees.—January 60° , range 3.—Feb. 60° —range 3—March 60° —range 4.—April 59° —range 4.—General average 60° — $9'$. This shews a fine climate for the foregoing months. It is almost exactly that of the South of England in the month of August.

"The mean temperature of the winter months in St. Michael's according to these observations, is 2° colder than Madeira; 5° warmer than Lisbon; 13° warmer than Nice; 12° warmer than Rome; and 12° warmer than Naples." 321.

The humidity of St. Michael's is greater than at Madeira or Naples, but less than that of London or Rome. The rain at Villa Franca, on some days, was little more than a mountain scud of a few minutes' duration—at other times it fell heavy. There was only one day of continuous rain during the whole time they were in these islands.

"At the same time, the humidity is so great that your boots grow mouldy in a few days; kid gloves speedily become spotted; books feel damp, and your clothes smell musty.* To prevent these inconveniences, as fires, with one or two exceptions, are nowhere used, except for cooking purposes, the inhabitants are much in the habit of hanging out their clothes in the sun." 323.

This is a considerable drawback on the climate. Our authors observe that this inconvenience might be remedied by lighting a small stove for a couple of hours in the evenings. The skies are rarely cloudless, and the invalid can spend the greater part of the day in the open air.

The natives of St. Michael's are more prone to nervous and atonic, than to inflammatory and sthenic diseases. One of the most prevalent complaints is gastralgia, with little disorder of the digestive functions. This is probably owing to the diet, among the lower classes, which is chiefly cabbages and potatoes, with lard. But these people are also subject to neuralgic affections of other parts of the body. Hypertrophy of the heart is more frequent than in England. Elephantiasis tuberculata is endemic there.

Consumption is extremely rare, though bronchial inflammation is common. It is hardly necessary to say that it is only in the most incipient stages of phthisis, or rather in hereditary predisposition to that malady, that the climate of the Azores can be applicable. But as the climate of Madeira is nearly if not quite as good, and as there are few accommodations for British invalids in the Western Islands, they can hardly be recommended at the present time. The work altogether will be found very amusing to those who visit these beautiful islands.

* "I have been informed by a gentleman who spent a winter in Madeira, that the damp in that island produces precisely the same effects"

III. The new edition of Sir James Clark's work is nearly re-written—much having been omitted, in order to make room for new matter. This last is, however, so dovetailed and interwoven with the original matter that it would be extremely difficult to collate the second and third editions, so as to eliminate the additions and corrections made to the present volume. Nor is it necessary. The work is the standard one on climate, and will be in the possession of most intelligent practitioners.

Our readers will remember that Dr. Farr recommended pulmonary invalids to leave Bagnères de Bigorre for Pau or Rome during the Winter. Dr. F. gives us no account of PAU, and therefore we may make a few extracts from Sir James's work, to fill up the hiatus.

PAU is finely situated in the lower Pyrennees upon a ridge of gravelly hills, overlooking an extensive valley to the north. Behind it rise the stately Pyrennees but with a very gradual ascent, the highest range being 40 miles distant from the town. Sir James is indebted to Dr. Playfair, now of Florence, who resided several years at PAU for the following:

"Although the character of the climate of Pau, corresponds with that of the South west of France generally, it possesses some peculiarities which it owes to its topographical situation. Notwithstanding its distance from the coast, it is very much under the influence of the Atlantic. All the changes to which this gives rise extend as far as Pau, though modified, in some degree, by distance, and, still more, by the position of the place with respect to the neighboring mountains. Calmness, for example, is a striking character of the climate, high winds being of rare occurrence and of short duration.

The mean annual temperature of Pau is $4\frac{1}{2}^{\circ}$ higher than that of London, and about 3° higher than that of Penzance; it is about 5° lower than that of Marseilles, Nice and Rome, and 10° lower than that of Maderia. In *winter*, it is 2° warmer than London, 3° colder than Penzance, 6° colder than Nice and Rome, and 18° colder than Maderia. But in the *spring*, Pau is 6° warmer than London, and 5° warmer than Penzance; only 2° colder than Marseilles and Rome, and 7° colder than Madeira. The range of temperature between the warmest and coldest months at Pau is 32° : this at London, and likewise at Rome, is 26° ; at Penzance it is only 18° , and at Madeira 14° . The daily range of temperature at Pau is $7\frac{1}{2}^{\circ}$. At Penzance it is $6\frac{1}{2}^{\circ}$: at Nice, $8\frac{1}{2}^{\circ}$; at Rome 11° ." 189.

PAU is nearly exempt from the oppressive southerly winds, on the one hand, and the cold north-east winds on the other. Although the climate may be said to be rainy, yet it is not subject to some of the evils which usually attend wet climates. Rain seldom continues more than two days at a time, and is followed in a few hours by warm sunshine—the soil rapidly absorbing the fallen rain. The atmosphere is remarkably free from humidity.

"In October some snow generally falls on the centre chain of the Pyrennees; and, at Pau, this fall is marked by a sudden change of temperature, the weather becoming rainy and chilly. In November the weather clears up, and becomes milder. December and January are cold and dry; frost and slight snow-showers then occur, but the snow does not lie on the ground. The sun is bright and warm; and from twelve till three o'clock, an invalid may generally take exercise. February is milder; but, towards the end of this month the spring rains fall, and the weather is then chilly and disagreeable. March is mild, but variable; though there are no cutting winds. In spring, westerly winds, which are soft and mild accompanied with rain, alternate with dry easterly winds, also of a mild character. Hence it is, that the vernal exacerbation of inflammatory affections of the sto-

mach and lungs, so commonly observed in other climates, is little felt by invalids at Pau. Vegetation bursts forth in the first week of April, which is a warm month. May resembles April, but is warmer. In June the weather is hot, and fine. July, August, and September, are very hot months, the thermometer sometimes rising as high as 94° in the shade; with a powerful sun, preventing exercise from eight in the morning till seven in the evening" 192.

According to Dr. Playfair, the good qualities of the winter climate of Pau, may be summed up as follows:—

"Calmness, moderate cold, bright sunshine of considerable power, a dry state of atmosphere and of the soil, and rains of short duration. Against these must be placed,—changeableness, the fine weather being as short-lived as the bad; rapid variations of temperature within moderate limits. In autumn and spring there are heavy rains." 193.

PAU is, generally speaking, healthy; rheumatism, being the most prevalent complaint among the natives. Goitre is also common.

"The characteristic quality of the climate, however, is the comparative mildness of its spring, and exemption from cold winds. While the *winter* is 3° colder than the warmest parts of England, and 6° colder than Rome, the *spring* is $5\frac{1}{2}^{\circ}$ warmer than the former, and only $2\frac{1}{2}^{\circ}$ colder than the latter. The mildness of the spring, and its little liability to winds, render this place favorable in chronic affections of the larynx, trachea, and bronchi. In gastritic dyspepsia Dr. Playfair has found it beneficial, and he has seen it useful in a few cases of asthma. With delicate children, also, he found the climate agree well, especially when they removed to the mountains during the summer.

Upon the whole, Pau appears to be the most desirable winter residence in the south west of France, for invalids labouring under chronic affections of the mucous membranes. In the same class of diseases, the mineral waters of the Pyrennees are also very beneficial; and it may be convenient, and advisable, for the invalid, who has derived benefit from a course of these waters, to pass the winter at Pau, with a view of returning to them in the following season." 193.

PAU is 150 miles from Bourdeaux; and 50 from Bayonne.

A TREATISE ON THE NERVOUS DISEASES OF WOMEN:—COMPRISING AN INQUIRY INTO THE NATURE, CAUSES, AND TREATMENT OF SPINAL AND HYSTERICAL DISORDERS. By *Thomas Laycock*, M. D. &c. &c. London, 1840.

THE diseases of females have always held a prominent place in medical literature. For whether we regard the protean form they often assume—their frequent danger—or the interesting subjects of them; they possess peculiar claims on our solicitude and attention. In another point of view the study of these diseases is most important for there is no class of maladies the treatment of which imposes greater responsibility on the medical attendant; or where his character and skill are more frequently placed in jeopardy.

Hence we took up the volume before us with considerable interest and pleasure: and the perusal of the sensible preface led us to hope that new

views, or new lights would be thrown on the pathology and treatment of the class of diseases which the author professes to have carefully studied, and respecting which he comes forward to instruct his readers. It is difficult to pass a judgment in limine on works of this kind. Authors and readers have different objects in view. Hence a good book is not unfrequently censured because it does not chime in with the readers' preconceived notions, or meet the exigencies, or motives, for which he reads it. For instance, the work before us will be perused with far different feelings by the naturalist or speculative theorist, than by the medical man who reads for practical information.

Dr. Laycock seems to be aware of this, and endeavours to obviate the objections that may be made to speculative and theoretical medical publications.

"I have often thought," he states in his preface, "that treatises on the practice of medicine professing to be free from theory and to contain nothing more than a description of diseases, and the methods of treatment, are of questionable utility. The condensed style in which they are usually written admits of no detailed exposition of the principles laid down, or of the facts from which those principles are deduced. The writer consequently appears to dictate rather than to state an argument; to be the occupant of a professorial chair, rather than a fireside companion. The interest which physiology might give the subject is lost sight of; and thus the work is dry and uninteresting, and never studied."

We do not accord with the opinion of our author. On the contrary, we think that the practical works which he thus describes and condemns, are not only the most studied, but deserve to be so.

Theory may assist us in generalizing recorded facts, but in our opinion few discoveries in medical science have resulted from it; and it is often a fallacious guide in the practical treatment of disease. "*As medica tota in observationibus*," is an adage we believe not more trite than true.

Works therefore containing a faithful description of the symptoms, diagnosis, and prognosis of diseases, with the treatment which experience has proved to be the most efficacious, are those to which we constantly refer; and which enable us to decide in the hour of difficulty, when the mere theorist is bewildered in his own mazes. So far from never being studied," these publications are by far the most popular; we need only to exemplify our meaning, refer to that of "Pemberton on the Abdominal Viscera." This work, although it contains no theory, is enlivened by no physiological views and does not evince more than ordinary research, is yet in every body's hands, and why?—because it enables us, by its graphic description of diseases, to identify them—to discriminate them from others—to foretell their probable termination—and to decide at once on their treatment. It is in vain that we look for these desiderata in Dr. Laycock's book. Although it is a sort of monograph, being confined to one class of diseases; yet we may turn over the whole of the pages before we find the connected symptoms of any one of those diseases, or the treatment specifically laid down. We have the "*dissecta membra*"—detached thoughts—theories—anomalies—and symptoms of disease, and the treatment of those symptoms:—but we want a more lucid arrangement, an identification of disease—a design, and an end.

The defective and scattered arrangement of the work also renders it

difficult to read, and to ascertain the author's meaning; and this difficulty is increased by the references to authorities being made at the bottom of the page by letters, instead of by the author's names. We are thus compelled to turn back generally three or four times in a page to a long list of authors in the commencement of the book, to know from whom he quotes, or whose opinion he controverts.

Notwithstanding these remarks, we have found in Dr. Laycock's book much to admire; it displays considerable research and contains some original and novel views: yet, we are compelled to repeat, that it neither comes up to the standard of what we think such a work should do, nor will it in our opinion, fulfil the object which the author himself seems to have had in view.

He has collected a great many facts and circumstances in natural history—such as the periodic changes in insects; the nidification of birds; the period of gestation in animals; instances and proofs that male birds and animals have different tints and colors from the female; that the latter at certain times emit peculiar odours; that emasculation reduces the male, and removal of the ovaries the female, to an intermediate state of colour, &c. &c., with a variety of other similar observations.

Dr. Laycock is of opinion, that many of these facts throw light on the changes and diseases of the female system, and that without a knowledge of them many anomalies would be inexplicable. We do not think that he is borne out in these assertions by the use he makes of the facts, in their application to explain either the causes of disease, or the treatment. Many of his theories are fanciful, others mere assumptions; they may be probable or true—but they add but little to our previous knowledge of the subject. We are far from wishing to disparage the study of natural history in reference to medical science. On the contrary, we think a knowledge of the habits, instincts, and diseases of animals, and of their comparative anatomy, is essential to the study of the diseases of mankind. Our acquaintance with many facts in human physiology is derived entirely from this source; but we tread on slippery ground when we deduce theories from it for the explanation of the cause of human disease.

We shall, however, better explain our meaning as we proceed in our analysis of this volume.

Dr. Laycock commences the special physiology of hysteria by assuming or establishing four general principles.

1st. The nervous system is the seat of hysteric disease.

2ndly. Hysteria is peculiar to females.

3rdly. Women of susceptible nervous system are more liable than others; and,

4thly. Hysteric diseases appear only during that period of life in which the reproductive organs perform their functions.

We have but little to object to these principles so far as they go: indeed they are generally admitted.

Dr. Laycock, however, controverts the opinion which is commonly held, that the uterus is the exciting cause of that disturbance of the nervous system which occasions the phenomena of hysteria.

Dr. Bright states, that "the peculiar condition of the nerves in hysteria

seems to owe its origin, more or less directly to the extensive nervous sympathies of the uterus, which are capable of being anatomically demonstrated as well as pathologically inferred." Dr. Copland and others advocate very similar doctrines. "It will be observed, however," says our author, "after a careful perusal of these various theories, that they afford no satisfactory explanation of many of the peculiar phenomena of hysteria; of the spasm of the glottis; of the remarkable embonpoint of many hysterical patients under the most meagre diet; of the occasional profuse salivation; of the periodicity observed in the paroxysmal forms; of the more frequent occurrence of the disease in Spring and Autumn; or indeed of a hundred other circumstances connected with its multifiform varieties." p. 7.

Now we think that a theory may be a very good one, which explains the usual phenomena of a disease, although it may not account for the anomalies which occasionally attend it. These anomalies may arise from other concurrent causes. With the exception of the first, the symptoms above enumerated are all anomalous: at any rate they are not "peculiar" or essential to the malady. In attempting to explain the various phenomena of disease we are apt to be too exclusive, and because we cannot account for many deviations which may arise during its progress we abandon our theory, forgetting that, in the complex machine with which we have to do, many disordered and inexplicable actions may be set up, although the exciting cause may be essentially the same. Theory is only really useful when it leads to successful treatment, and for this reason we believe that the theory which refers the symptoms of hysteria to uterine disturbance has been productive of the greatest advantage. It is true many vague hypotheses have been framed, to explain *how* the uterus acts to produce hysteria, and in what manner medicines operate to remove it; but the facts and practices on which they were founded still remain: for nature and the laws of the human body are yet the same. We may not be able to account for all the phenomena which may occasionally occur in so complex a disease as hysteria, for analogous symptoms may arise from opposite causes—or, vice versa, opposite conditions of the uterine organs may occasion similar symptoms; but in the main, our treatment will be successful in proportion as we are acquainted with the morbid sympathies of the uterine system, and direct our curative measures accordingly. In the work before us we find many sensible suggestions for the removal of certain symptoms, but the general treatment of hysteria is not very clearly or systematically laid down, nor is the disease itself distinctly or graphically described.

Dr Laycock's object, indeed, does not appear to have been to give a methodical description of female disorders, or a systematic mode of treatment, but rather to explain them and their anomalies, by analogous reasoning from facts collected from natural history and other sources. We do not think, as we before remarked, that the inferences he deduces from many of these facts are so valuable as he seems to regard them. They do not much advance our previous knowledge of the diseases of the female system, nor lead to any striking novelty in the way of treatment. We shall, therefore, confine our few remaining remarks to a brief consideration

of some of those points of the work to which he invites the especial attention of his readers.

Dr. Laycock states in his preface that, "In the second part of the work the comparison between the diseases of infantile dentition and of puberty, the demonstration and illustrations of the connexion between the gouty diathesis and diseases of the nervous system, the chapter on the pathology of the passions the relations of paroxysmal diseases to other affections and to the encephalon, and the different endowments of the lateral halves and extremities of the nervous centres, will, I humbly think, offer points of interest both to the pathologist and practitioner."

He commences the first enquiry by shewing that, previously to puberty, the brain is in a condition different from that which is observed after puberty. This, he thinks, "is evident from the impulse given to the intellect on the accession of the latter; and the difference is still more obvious when we consider the effects of cerebral injuries before and after adolescence. While these are among the most fatal injuries which can happen to the adult, in children their consequences are not more grave than those which would follow a lesion (lesion) of corresponding severity in any other part of the body." "Since the cerebrum and generative organs are both undeveloped, we can look for no symptoms specially involving these; but excluding these two sources of excitement and of anomalous symptoms, we have," in the first dentition, "all the remaining phenomena of hysteria. Those usually mentioned by systematic writers may be enumerated as follows:—1. Those originating in organs connected with the upper extremity of the spinal cord; *a.* symptoms originating in the cranial cord—coma, watching, and sudden starting from sleep, increased sensibility of the surface, general and epileptic convulsions, opisthotonos, paralysis; *b.* symptoms implicating the face—strabismus, fixed stare, sardonic grin, trismus, convulsive twitchings; *c.* symptoms referred to the larynx, trachea, and bronchi—aphonia, convulsive cough, hydrophobic gasp, spasmodic closure of the glottis, croupy breathing, wheezing from increased or diminished secretion from the bronchi; *d.* pharynx, œsophagus, and stomach—retching, vomiting, dysphagia, eructation, impaired appetite; *e.* heart—palpitation, syncope; *f.* respiratory muscles—dyspnœa, sneezing, hiccup, yawning. 2. Symptoms implicating the dorsolumbar portion of the cord—paralysis and tetanic extension and flexion of the lower extremities, serous exudation from the buttocks, increased micturition, ischuria, mucous discharges from the urethra, dysuria, constipation, diarrhœa, colic, tympanitic distention. Systematic writers in general agree in making one or other of these symptoms the cause of the rest, the less grave having the blame of originating the graver; so that the protrusion of a tooth through the gums, constipated bowels, or flatus, have had the whole catalogue attributed to their injurious influence. That they are exciting causes may be readily granted; but if dentition necessarily caused such serious symptoms, why are they not observed in every infant? or at the second evolution of the teeth? or when the dentes sapientiæ appear? It is true that a constipated state of the bowels will excite convulsions in infants; but why more readily in infants than in adults? during the cutting of a tooth than in the interval? or why, indeed, is there constipation at all? Why indeed!

We have made this long extract to shew the style and mode of reasoning of our author. He huddles together a catalogue of symptoms, which, he says, are "usually mentioned by systematic writers," as characteristic of one disease—which would apply to all the diseases of the nervous system; but, so far from the above symptoms being usually observed in hysteria or teething, the life of a practitioner may be spent without witnessing a third of them in either. He then assumes that these systematic writers agree to make one or other of these symptoms the cause of the rest. We confess we are unacquainted with such writers. We do not, however, with Dr. Laycock, call the protrusion of a tooth through the gums a *symptom*—but the cause of the symptoms, simply because, in nine cases out of ten, the division of the gum will remove them. Again he states that, because the brain, previously to puberty, can bear external injury with impunity, it is inirritable or "insensible;" because convulsions, &c., occur both in teething and hysteria, they are analogous affections. We apprehend that they who have had the most experience in infantile diseases, will pause before they admit with our author, that the brain is not excitable or prone to disease during childhood. On the contrary, almost all who have attended to the subject will agree, that the brain of children is especially obnoxious to disease from even slight causes of irritation.

This increased susceptibility of morbid action probably arises, as it is generally supposed, from its large supply of blood and consequent early development.

It will be readily granted that convulsions occasionally occur, both in hysteria and in the teething of children—but to render a parallel or analogy between these two diseases really useful, they must be characterised by similar causes, symptoms, prognoses, pathological conditions, and modes of treatment; examined by this test, we humbly think the connexion between dentition and hysteria will offer a few points of interest either to the pathologist or to the practitioner.

Dr. Laycock next traces an analogy between hysteria and gout. He states that they arise from a similar cause—have the same pathological connexion—and that the same remedies are applicable to both.

This is his theory.—"In an individual of gouty diathesis an excess of urea, or other urinary constituent, being produced, and, at the same time, in consequence of impaired action of the kidneys a diminished amount being eliminated, the excrementitious matter (like digitalis and other poison) accumulates in the system, and at last overcharging it, causes an 'explosion' (to use the word of Boerhaave) to take place, in the form of agouty paroxysm, or failing this, excites irritation of different organs in succession, and produces in men the different forms of erratic gout,—in women, of anomalous hysteric disease; the symptoms varying in each individual, as one or other organ weaker than the rest falls under its noxious influence, so that in one case they will be those of mania, in a second of thoracic disease, in another of epilepsy, in another of the hysteric paroxysm, or assume the form of angina pectoris, spasmodic asthma, or neuralgia." 170.

That the pale urine of hysteric females contains but little urea is well known, but we hesitate before we admit the inference, that because but little is eliminated, there exists an excess in the system, and that this excess is the

materies morbi. Dr. Laycock's theory appears to us to be little better than mere assumption. Friendly as we are to the humoral pathology, we must have further proofs than he brings forward before we admit that the presence of urea, or any other urinary constituent, in the system, is the cause of some of the most grave diseases to which mankind is liable. With regard to gout we entirely coincide, however, in the views Dr. Holland and Dr. Prout have brought forward, and we think that their researches will tend to a rational mode of treatment. The former eminent physician thinks, that the existence of some peccant matter in the system, probably in the blood, characterizes the gouty diatheses, and that its elimination constitutes the gouty paroxysm.

Dr. Prout's opinion, in the recent edition of his valuable work, is thus stated:—"According, therefore, to these views, the lactic and lithic acids, considered with reference to rheumatism and gout, may be regarded somewhat in the light of *materies morborum*, or, strictly speaking, the undue presence of these acids in the urine, or elsewhere, under certain circumstances, may be viewed as indices of the existence of certain diseased actions going on in the primary tissues of the body, and which are known by the names of rheumatism and gout."*

These views thus cautiously expressed are clear and definite, and point out the rationale of the preventive and curative measures of gout and rheumatism, but they have but little connexion with hysteria, in which, if we mistake not, an opposite condition of the system exists.

This would lead to an erroneous treatment of this latter disease, and can serve no useful purpose in explaining either the symptoms, causes, or pathological condition.

Dr. Laycock refers to Dr. Conolly and Dr. Ferriar to substantiate his theory of the close analogy between gout and hysteria. We accordingly turned to these valuable writers, and although we do not think Dr. Laycock is happy in these references, as regards his own views, yet the passages are so well expressed, and put the resemblance between hysteria and gout in in so proper and practical point of view, that we take the liberty to quote them.

Dr. Conolly says:—"Some of the older writers laid considerable stress on the influence of a gouty constitution in predisposing to hysteria. Facts of this kind are not easily verified, and hysteria may occur in a gouty family without being really connected with a gouty constitution. There can be no difficulty in an age when a new and more enlightened pathology of the fluids seems to be dawning, in admitting so much of the ancient humoral pathology as to allow that either a gouty, or any morbid matter in the blood, may be the occasional exciting cause of those nervous irritations which characterize a susceptible temperament, just as in other cases. The same morbid matter, by irritating the nerves of the extremities, appears to excite the common pains of gout and rheumatism. The nervous irritation in these latter examples is sufficiently well established: the existence of a morbid matter yet remains to be proved."†

* Stomach and Urinary Diseases, by Dr. Prout; p. 211.

† Cyclop. of Pract. Med., art. Hysteria; p. 571.

The passage to which Dr. Laycock refers in Dr. Ferriar is the following. "There is a strong resemblance between hysteria and gout in the power of counterfeiting different diseases, *but with this material distinction*, that the hysterical representations are commonly void of danger, while those produced by gout are often more dangerous than the simple disorders which they imitate. The hysterical hæmoptiæ, for example, is seldom productive of bad consequences—but the arthritic apoplexy, pneumonia and cardialgia, are much more alarming, and run their course quicker, than similar complaints originating from other causes. But these diseases agree in this respect, that the accession of the regular paroxysm puts a favourable period to the irregular symptoms of each."*

In the chapters "on the pathology of the passions—the relations of paroxysmal diseases to other affections of the encephalon—and the different endowments of the lateral halves and extremities of the nervous centres"—many novel and hypothetical views are advanced which display considerable research and ingenuity. But as they do not elicit much practical information, we shall pass them over, and select some of our author's remarks on the treatment of disease, which we think will be more interesting to our readers.

In this, however, the therapeutic part of the work, we have the same fault to find as in the descriptive; we have no definite plan of treatment laid down, or rules given by which the precise adaptation of remedies may be made. The divisions and subdivisions of hysteria are innumerable. We have hysteric catarrh, hysteric bronchitis, hysteric tetanus, hysteric hepatitis, hysteric constipation, &c.

We very much question whether this method of applying the epithet "hysteric" to distinct diseases simplifies our knowledge of them; on the contrary, we think it tends to confuse and embarrass. It is well known that the peculiar feature or characteristic of hysteria is to stimulate other diseases, as has been ably shewn by Dr. M. Hall, Sir B. Brodie, Ferriar, and others; and great skill on the part of the practitioner is often required to discriminate the feigned from the real disease. But to designate the latter hysteria simply because it occurs in a constitution prone to hysteria, is, we think, improper—because it tends to divert our attention from its real nature, as well as from its appropriate remedies.

In the general treatment of hysteria Dr. Laycock strongly recommends air and exercise, and those means which tend to divert and exhilarate the mind, and give tone and strength to the body. In that form of hysteria which is occasionally observed in habits hereditarily predisposed to gout, he gives the following formula, which is also a great favorite with him in some other anomalous hysterical affections.

℞. Ferri sulph. gr. xv.
 Pulv. colocynthidis gr. ij.
 Pil. hydrargyri gr. xij.
 Extract. colchici acet. gr. ix.
 Extract. gentian. gr. xxx. M. et fiat pilulæ xij.

One to be taken three times a day."

One of the predisposing causes of hysteria is a neglected and confined state of the bowels: and a train of ill health in females may often be traced solely to this source. We were not however aware of the extent to which this neglect is carried, until we met with this startling passage.

"Constipation."—It is surprising how long a period delicate women will occasionally allow to elapse between each evacuation of the bowels; from five to ten days is by no means an unusual time, and sometimes as many weeks have intervened. The constipation of hysterical females depends partly upon paralysis of the intestine, and partly upon diminished secretion from the mucous surfaces; unless there be a local cause it is always proportionate to the severity of the general disease, and accompanied by more or less ischuria, tympanitis, abdominal and spinal tenderness, &c.

It is in the severe cases of hysteria that the most extraordinary constipation has been witnessed; in such, from three to six months, and even seven years, have elapsed without a stool." 244.

In many of the gastric affections of females Dr. Laycock speaks highly of the nitrate of silver, and the trisnitrate of bismuth. We bear our willing testimony to the efficacy of the latter remedy in gastrodynia and pyrosis, which are common diseases in females. It is usually given in doses of from five to ten grains, with an equal quantity of magnesia twice or thrice daily, and when the pain is severe, with the addition of half a grain of opium. In protracted cases the nitrate of silver is a valuable remedy, and was first introduced into notice by Autenrieth, Ruff, and Dr. James Johnson. Dr. Laycock gives the following formula from Dr. Steinitz of Greiffenberg.

"R. Argenti nitr. crystal. gr. v.
Solve in aquæ distillatæ, q. s. et adde.
Extracti taraxaci

Pulv. rad. glycyrrh. ʒʒ q. s. ut fiat massa in pilulas xx. dividenda.

One or two of these pills to be taken in the morning and again in the evening, with mucilaginous drinks."

The sections on spinal tenderness and distortions will be read with interest. They contain extracts from Stromeyer and other writers on these subjects, and point out a correct diagnosis and treatment of these affections.

On the whole, the work of Dr. Laycock evinces considerable extent of reading and industry of research: and although it has been our misfortune to differ from him in our estimate of the value of some of his opinions and theories, as well as of the general arrangement of his book, yet we take leave of him with a high opinion of his talents, and of his zeal for the improvement of his profession.

THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Instituted 1832. Vol. IX. London: John Churchill, 1841.

OUR Provincial Brethren continued to display the same zeal, the same steadiness of purpose, and the same information, as when they first began to publish their Transactions. These volumes are highly useful—they keep alive a spirit of observation, and acquaint the professional world with many valuable facts which would otherwise be unrecorded.

The contents of the present volume consist of—I. Proceedings of the Association at Southampton,—which comprise, Address by Dr. Jaffreys—Address by Dr Steed—Report of the Council—Thackeray Prize—Parochial Medical Relief—Vaccination Section—Medical Reform—Report on Empiricism—Report of the Benevolent Committee—Medical and Surgical Papers and Cases.

II. Retrospective Addresses.—The Retrospective Address in Surgery delivered at the Eighth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Southampton, July 22nd and 23rd, 1840. By A. T. S. Dodd, Esq., Surgeon to the Infirmary, Chichester—The Retrospective Address, delivered at the Eighth Anniversary Meeting of the Provincial Medical and Surgical Association, held at, Southampton July 22nd and 23rd, 1840. By Roger W. Scott, M. D., Physician to the South Dispensary, Liverpool.

III. Medical Topography.—Medical Topography of Shrewsbury and its Neighborhood. By T. Ogier Ward, M. D., Shrewsbury.—Statistics of Rheumatism. By Edmund Lyon, M. D., Physician to the Manchester Royal Infirmary, Dispensary, &c.

IV. Essays and Cases.—Observations relating to Injuries of the skull and Brain, in which the use of the Trephine is considered. By John M. Banner, Esq., Surgeon to the Northern Hospital, Liverpool, and Lecturer on Surgery at the Medical School of the Liverpool Royal Institution.—On the Moveable Cartilaginous Bodies found in the Synovial and Serous Cavities. By James Macartney, M. D. F. R. S., Honorary Member of the Provincial Medical and Surgical Association, &c.—A Case of Amputation of the greater part of the Lower Jaw. By A. T. S. Dodd, Esq. Surgeon to the Infirmary, Chichester.—Cases of Abscess forming within the Pelvis after Labour, with Observations. By Thomas W. Wainwright, Esq. Surgeon to the Liverpool Northern Hospital.—Cases illustrative of the Pathology of Biliary Concretions. By George Mallott, Esq., Surgeon, Bolton-le-Moors.—On the Influence of the Depressing Passions on the Health and on Disease. By J. K. Walker, M. D. one of the Physicians to the Infirmary, Huddersfield.

V. Infirmary Reports and Medical Statistics. A Report of the Out-Patients, attended by F. Ryland, Esq., at the Birmingham Town Infirmary, between the 25th December, 1837, and the 12th December, 1839.—A Report of the Cases attended at the Birmingham Eye Infirmary during the Years 1838 and 1839. By Richard Middlemore, Esq., Surgeon to the Infirmary.—Suggestions as to the form of Register for Hospitals, Dis-

pensaries, and Private Practice. By Charles Cowan, M D., Physician to the Royal Berkshire Hospital and Reading Dispensary, Fellow of the London Statistical Society, and Member of the "Société Medicale d'Observation" of Paris.

The Retrospective Addresses we cannot praise too highly. They severally offer a valuable epitome of what has been done in medicine and surgery during the last twelve months, and will be read with the same interest which must have waited on their delivery.

THE MEDICAL TOPOGRAPHY OF SHREWSBURY is cleverly handled by Dr. Ward.

We can only notice one or two points connected with it. The first of these is the physical character of the inhabitants, who are either agricultural, mining, or townsmen. The recruiting officer, an authority, declares that the men enlisted in this district are quite equal, if not superior, to the ordinary average. This however applies to the agricultural and town population only; for the inhabitants of the coal district are a short, stunted race, broad-chested and powerful upwards, but weak in the legs and very subject to deformities of the toes, that unfit them for marching. This weakness of their lower limbs is owing to the constrained positions of sitting, kneeling, or lying on the side, in which they work in extracting the coal and ironstone; and these positions are rendered so habitual to the colliers, that they generally prefer squatting on their hams to any other posture, either at home, or when congregated in the streets, where they may be seen sitting in rows with their backs against the wall. The miners work in less constrained postures in following the veins of ore, and hence they do not differ in figure from other men. Except the dreadful accidents from explosion, &c. to which both colliers and miners are exposed, their occupation does not seem to produce any directly prejudicial effects upon either of them. False melanosis of the lungs, from the inhalation of particles of coal, and of the smoke of gunpowder in the pits, is almost unknown in the coal districts. Some of the lead miners however have suffered from colica pictonum. Independently of disease, the whole class of colliers, iron-founders, and lead-miners, are subject to premature old age, from the intense heat which some, and the hard labour which all undergo.

Variations of the Population.—These shew the influence of employment upon population. Where the former is rife, there is an influx of labourers—when scarce, an emigration of them. This important and natural fact must be recollected at the present moment when the operation of the corn-laws is so engrossing a question.

In the first decennial period, the population of Shrewsbury increased only as much as would result from the average excess of births over deaths; in the second, half as much more; and in the third, but little more than half. The county population, on the contrary, increased a third more in the first period, only half in the second, and two-thirds of the average in the third. The mining parishes increase their numbers by a fourth only

of the average in the first decade, by a fourth more than that sum in the second, and by double the average in the third.

A reference to the third table will explain in some degree the causes of this fluctuation, by shewing that it depends in a considerable degree upon the migrations of the male population in search of employment; thus, at the last census, nearly nine per cent. of the males had quitted Shrewsbury, while a number of men, equal to five per cent. of the inhabitants, had immigrated into the mining parishes; the county population experiencing little influx of males, but rather lessening by the emigration both of males and females.

Dr. Ward does not know what peculiar causes operated to increase the town population during the second decade, but the falling off in the mining district was doubtless owing to the great encouragement given to agriculture by the increased price of wheat (nearly forty per cent.) above what it bore in the previous ten years; for we observe that, though the mining population decreased, the whole county increased more than the average. The second decade, embracing some years of peace, gave a stimulus to manufactures, and not only prevented the emigration of the miners, but produced a reflux of the tide from the agricultural part of the county sufficient to restore the average, and even more; and this stream has continued to flow during the third decade with augmented velocity, which, to judge from the present state and prospects of the iron trade, there is every reason to believe it still retains.

Great Prevalence of Insanity.—An examination of a table of the insane presents us, observes Dr. Ward, with a very unsatisfactory view of the intellectual state of the county of Salop, whether we compare it with the adjoining ones, or with such as exhibit an approximation to it in any of the points of comparison mentioned. In the first place, the number of the insane in Salop is exactly the same as in the adjoining county of Stafford, but the proportion to the population is nearly twice as great, and the proportion of idiots almost twenty per cent. more; and we observe the same inferiority if we take a county partly mining and partly agricultural, as Northumberland; or one wholly agricultural, as Sussex. In the next class, where the proportions are similar of the insane and the population, the proportion of idiots averages eleven per cent. less than in Salop. Dr. Ward justly remarks that the prevalence of idiocy may be taken in some degree as the measure of the intellectual degradation of a country, though doubtless climatorial influence, as in the canton of Vallais, in Switzerland, has considerable effect in the production of this form of insanity. In the third class we see a close approximation to the state of Salop, if we take into consideration both the proportion of insane to the population and the per centage of idiots, except in Buckinghamshire, which, it is remarkable, was previous to the passing of the new Poor Law, in the worst state, with regard to pauperism, of any county in the kingdom. All these counties it may be observed are agricultural. Lastly, if we compare Salop with the general average of England, and of England and Wales, we find it inferior to both united, though superior to Wales alone, to which it thus rather closely approaches, not only in climate and soil, but also in intellectual character. It is worthy of remark that the proportion of idiots is the highest in three of

the most mountainous counties of Wales, viz., Carnarvon 68.4, Denbigh 75.9, and Merioneth 82. Having thus exhibited the dark side of the picture, it is but right to take a more favourable view, and to state that there are few counties in the kingdom that can boast of a longer list of worthies in the sciences, arts, or arms, than Shropshire.

STATISTICS OF RHEUMATISM.

Dr. Lyon, of the Manchester Royal Infirmary, contributes these.

It appears that the aggregate of rheumatic cases in ten years was 291 out of 3561 *home-patients*, or a little more than 8 per cent.; that 103 of these were chronic, and 188 more or less acute, making the ratio of the latter something more than 5.14 per cent. (5.28.)

On referring to the monthly accounts it will be seen that they are highest, both absolutely and relatively, in April and May, and lowest in August and September,—being, in April, 35 out of 332, or 10.54 per cent; in May, 40 out of 329, or 12 per cent; in August, 13 out of 282, or 4.6 per cent; and in September, 18 out of 324, or 5.5 per cent.—or, taking the acute and subacute cases only, 6.9 and 7.9 per cent. in April and May, and only 3.19 and 3.7 per cent. in August and September. Next to these, the months of February, March, and December, exhibit the smallest proportion of rheumatic cases.

If we now advert to the influence of *sex*, it will be seen that, of the whole number of rheumatic cases recorded in the table, the number of males and females was nearly equal,—145 of the former, and 146 of the latter; or, throwing out the chronic cases, 96 males and 92 females,—a very different result from what is observed in the kindred disorder, gout. Nevertheless the absolute numbers must not be taken as a true measure of the liability of the two sexes to this affection; for, the total number of males admitted being 1439, and of females 2122, calculation will show a relative excess of rheumatic males over females, including the chronic cases, in the ratio of 10. to 6.88 per cent.; and, excluding them, in the ratio of 6.67 to 4.33 per cent.; or, in either case, very nearly as 3 to 2. It may also be remarked, with respect to the acute and subacute cases, that whilst in January, August, September, and December, there is a slight excess of females, in April the males are as 10.44 to 4.5, and in May as 11.59 to 5.23.

After furnishing a very carefully compiled table, Dr. Lyon proceeds:—

“It may be inferred from this series of observations that the tenderness and delicacy of habit belonging to young females render them less liable than youths of the other sex to rheumatic attacks, and that women who have passed the meridian of life become even more liable to such attacks than men of the same age; whilst in both sexes the middle period of life is most favourable to the production of this disease. But if the women be, on the whole, less exposed than men to rheumatism, they appear to be more frequently cut off by its attacks; for, of four *deaths* recorded in the 188 cases, three took place in women at the ages of fifty-six, thirty-seven, and nineteen years; and I would attribute this greater fatality in *them* to their greater susceptibility of a particular complication of the disease, which does not appear to have been duly noticed by systematic writers. The complication in question consists of pulmonary affection—most commonly

in the form of bronchitis—coexistent with the inflammation of the large joints, sometimes superseding it, and occasionally proving fatal. I have not the means of stating accurately the proportion which these complicated cases bear to the whole number; but, on a rough estimate, I would say that not less than a fourth part of my cases have been of this character, more or less strongly marked.” 343.

OBSERVATIONS RELATING TO INJURIES OF THE SKULL AND BRAIN, IN WHICH THE USE OF THE TREPHINE IS CONSIDERED. By JOHN M. BANNER, Surgeon to the Northern Hospital, Liverpool and Lecturer on Surgery, at the Medical School of the Liverpool Royal Institution.

This is a long and valuable paper. We shall notice some of its prominent points.

After relating seven cases, Mr. Banner observes—“that so long as a patient can be roused to a state of consciousness, or so long as voluntary motion has not ceased, a surgeon would be very wrong in using the trephine, unless some peculiarity in the case rendered it necessary, which we will notice hereafter. In the cases of Hoy and Parkinson a discharge of blood took place from the ear, which may be considered an almost exclusive proof that the fracture extends through the petrous portion of the temporal bone; and where this is observed, I consider it a strong reason against the operation, even in those cases where the symptoms are sufficiently urgent to justify it if this symptom were not present. I would not be understood as considering the fact of a fracture extending through the temporal bone as a fatal consequence; on the contrary, I could relate several cases where this symptom existed, as in those already related, where recovery took place. I would however insist that in urgent cases, where there is fracture, for instance, of the parietal bone, and hæmorrhage from the ear, and compression so great as to destroy the functions of the brain, the operation would be unjustifiable; for in all such cases I have invariably found blood effused at the base of the skull, and often severe injury to the brain itself. It may be said ‘but why not give the patient even this small chance, for without it he must die?’ I would suggest that an operation should not be performed in this nor any other case unless there is a *fair prospect of success*.”

Mr. Banner details seven cases of *Laceration of the Brain*. Mr. Banner remarks upon them:—“The six last cases have been selected for the purpose of drawing attention to the circumstance that in each of them existed *convulsive action* and in each there was *laceration of the brain*. If it could be proved that in the majority of cases of *compression of the brain*, where laceration of that organ existed, convulsions or convulsive twitchings were a consequence, it would render our diagnosis easier; we might conclude that in a large majority of such cases the blood would be effused beneath the membranes of the brain, and thus render the operation of trephining the skull inapplicable. Cases, however, do occur, proving that convulsions, when attendant on severe injury of the brain, are not always a fatal symptom; this is instanced, in cases of concussion only, where the patients recover; nevertheless this is not a reason why there may not

exist laceration of the brain. The cases I am anxious to draw attention to are those where the compression is so great as to suggest an operation, but where convulsive motions are present, and probably prove laceration and internal hæmorrhage. I am bound, however, to confess that two cases have occurred within the last year at the North Hospital where, on dissection, we found laceration of the brain, and in which cases the convulsive motions were not present. In these cases there was an immediate destruction of almost all the powers, and death took place soon after their admission." He adds,—there are a vast number of cases recorded where there has been laceration of the brain; and the symptom of *convulsive motions* is mentioned in very few of them.

We must confess that we should doubt the justice of the opinion, that convulsions are any decisive evidence of laceration of the brain. When we reflect on the variety of causes that give rise to convulsions, we must hesitate to admit the necessity for so exclusive and structural a lesion as laceration.

Ecchymosis of Eye-lids.—"Several cases have been admitted into the Hospital where *ecchymosis* of the eye-lids has taken place after a severe injury of the head, often coming on at a period of some hours after the accident; the appearance is very peculiar, the cellular membrane of the lids appears filled with blood, and looks livid and swollen. I have observed that where this appearance has existed in connexion with compression of the brain, in cases which have terminated fatally, that a fracture has taken place in the roof of the orbit, usually extending to the basis of the cranium. I have seen this appearance so often in connection with a fracture through the orbit, that I consider it an almost sure diagnostic mark of this injury; and where this fracture exists I have observed that there has been effusion of blood at the basis of the cranium, so situated as to render relief from the trephine quite beyond all hope or expectation." 379.

Perforation of the Skull with a Pointed Instrument.—Mr. Banner asks if we may not include cases of this kind among those which require the operation of trephining. He believes that an unfavorable termination results in almost every case which is left unassisted by an operation; it is scarcely necessary to state that an almost universal consequence of such an accident is a fracture and depression of the inner table of the cranium, spicula of bone being often chipped off; in either instance the membranes or brain subsequently suffer. Where the perforation is large, he apprehends there cannot be much difficulty in ascertaining the fact of there being depression of the inner table of the skull; not so, however, where the opening is small; in nearly every case which he has met with, the aperture has been so small as to cause great difficulty and doubt as to the extent of injury; this difficulty has been considered by some writers as a reason why the operation of trephining the skull is improper. Experience, however, proves the contrary; the many recorded cases corroborate this opinion. He conceives that when we are called early to such an accident the operation would be justifiable, even though there were no urgent symptoms present. Authentic records prove that in nearly every case of perforated skull the inner table is chipped off, and produces inflammation and suppuration; the matter, as before stated, usually forming beneath the membranes, in the substance of the brain; if it were otherwise, we

should not be acting correctly in having recourse to the operation before urgent symptoms were present

The following are Mr. Banner's sentiments on a question of great interest and of much difficulty—whether we should or should not trephine in a case of compound fracture of the cranium with depression, but *without* "symptoms."

"Injuries of the head, in which there is a wound of the scalp, and fracture of the skull, with depression of bone, without urgent symptoms of pressure on brain, ought not to be interfered with, unless the bone is much comminuted, or where the fractured portion is isolated; in which instances we are called upon to render our aid, by using the trephine. Depression of the cranium may remain in many instances without producing any bad consequences, where it is unattended with symptoms of compression. Again, there are numerous instances where such an injury has been followed by extensive mischief. Suppuration may take place on the surface of the *dura mater*; this, however, cannot happen without our being made aware of it by the sympathy usually attendant on the formation of pus on the brain being present. Many eminent surgeons are of opinion that the extent of the depression should guide us in our determination with regard to the trephine; for instance, where the depression is considerable, that the trephine should be applied; where it is slight, it should be avoided; and this, too, where the scalp may not have received any wound. This rule however affords us no assistance with respect to the greater danger arising from the chance of suppuration between the bone and the *dura mater*; this being as likely to occur where the depression is small as where it is large.

Sir Astley Cooper has stated, in his Lectures on Surgery, that there is a great difference as to the danger of inflammation and suppuration of the membranes of the brain between those cases in which the fracture and depression is complicated, with a wound of the scalp, and those in which the soft parts are uninjured; such mischief being much more liable to occur in cases of the first kind than in those of the second; and on these grounds he recommends that, where the complication exists, *we should not hesitate to apply the trephine*; and on the other hand that, where it does not exist, we should carefully abstain from adding to the injury, by dividing the scalp and exposing the fracture. Many persons have recovered in whom there was at the same time a wound of the scalp and a fracture and depression of the cranium, although no operation was resorted to: three cases have occurred within my own observation. Mr. Abernethy relates two cases in his work on Injuries of the Head, and other cases have been recorded, where recovery has taken place without the operation; I conceive, therefore, that in forming our diagnosis, we should carefully consider the exact nature of the fractures. First, where the depression is from the centre of a radiated fracture, and is depressed to a point, with wound of the scalp, the bone should be raised; for in such instances inflammation of the *dura mater* is almost sure to follow. Secondly, where the fracture is isolated and the piece depressed, it should be removed. Thirdly, where there is a comminuted fracture, with wound of the scalp and loose pieces of bone, the depressed portions should be raised and the loose pieces removed." 393.

We confess we do not see the reasons why Mr. Banner should specify these as *the* cases for operation so exclusively. We wish we could think the solution of the difficulty so facile.

Secondary Hamorrhage.—Mr. Banner observes.—There is one point which does not appear to be clearly understood: it is with regard to the degree of pressure of the brain should be allowed to bear before the trephine

is applied for its relief in cases of internal hæmorrhage; we sometimes find patients, who are labouring under symptoms of compression of the brain from effused blood, remain in a state which would scarcely justify the application of the trephine, when, from a sudden aggravation of symptoms, they die. Sir Benjamin Brodie, in his work on *Injuries of the Head* asks the question: "Does secondary hæmorrhage ever occur within the cavity of the cranium?" and remarks, "In one case which came under my observation I was led to believe that this actually happened, causing sudden death after three or four days of apparent convalescence." In the case just related of John Hughes, the hæmorrhage was very great, so great as to threaten his immediate death, yet the man *walked* a distance of two miles after the accident, and remained sensible for at least three hours after its infliction. It is possible that in this case the artery, which was completely torn across, did not bleed in first instance.

We conceive that there cannot be a doubt of the *frequent* occurrence of *gradual* hæmorrhage—and of the occasional occurrence of secondary hæmorrhage within the cranium. We know of no law in the economy opposed to either.

With Mr. Banner's opinions on the *treatment of depressions of bone complicated with wound of the brain*, we conclude. He thinks that the surgeon is called upon to use his art for the elevation of the depressed skull; this case must be considered in a very different light to that where an isolated piece of bone has been driven into the brain; here the extraneous matter being detached, loses its vitality, and the restorative powers of the animal system can the more readily act in dislodging it; whereas in the other instance it must ever remain a source of irritation, unless restored to its natural level; it is true that there are instances recorded where persons have recovered in whom a depression of bone has been allowed, under these circumstances, to remain without being elevated; and there are cases also recorded where recovery has followed the elevation of the bone. If we consider this question according to nature's laws, we shall conclude, that where there is a depression of the skull so as to allow a portion of the bone to enter the brain, (the depressed piece being still attached,) and the brain acting on this fixed point, possibly with sharp spiculæ or rough edges, and which from its connexions is supplied with nutrition, and which cannot have penetrated very deeply into the brain, and again, the readiness with which it can be removed, that this irritating substance should be got rid of; and thus the trephine is here rendered useful, as our object should be to raise the depressed bone with as little additional injury to the brain as possible; by the removal of a portion of bone the subsequent steps in the operation will be facilitated.

ON THE MOVEABLE CARTILAGINOUS BODIES FOUND IN THE SYNOVIAL AND SEROUS CAVITIES. By JAMES MACARTNEY, M.D., F.R.S.

Dr. Macartney observes;—"It is a very generally received opinion amongst practical surgeons that these substances are formed in the first instance on a peduncle or footstalk, by means of which a vascular union is maintained between them and the surface of the cavities in which they

are inclosed, and that it is only by the accidental rupture of this footstalk they are set free. It cannot be doubted that such is the fact in some cases, because these bodies are occasionally found attached to the surface of the joints, the tunica vaginalis, the pleura, and the peritoneum, by peduncles, apparently composed of coagulable lymph, and containing blood-vessels; but there appears to be sufficient evidence to prove that, in other instances, they are from the beginning isolated bodies, and devoid of any vascular connexion with the surrounding parts. I have found them placed in circumstances, and organised interiorly in a manner which could only be accounted for by admitting them to possess an independent power of growth and development. For example, I have frequently met with them in the sheaths of tendons without there being the least appearance of their having been connected with the surrounding tissues. In one instance I found above a hundred of these bodies occupying the sheaths of the flexor tendons of the hand, and of various sizes, some being smaller than the pippins of an apple, and very nearly of the same form, while others were two or three times as large, and more spherical in their figure. They had evidently been deposited in succession, and had increased so much in number and magnitude as to raise up the palm of the hand into a convex form."

We apprehend that the loose bodies found in the sheaths of the tendons and the *cartilaginous* substances discovered in joints are not usually of the same description. The former are probably coagulable lymph rounded by attrition—the latter have been attached longer and more highly organised.

Dr. Macartney continues,—

"When these moveable bodies are contained in joints, and are subjected to friction and pressure, they seem to be excited to a more rapid growth, and to change their original structure, by the conversion of the cartilaginous matter into bone. I have found them in the knee joint larger than a mulberry, and as rugged as it on the surface, from the unequal growth of bone; and, by macerating some of them, I have found the deposition of osseous matter to pervade their interior. I have likewise known them to sensibly diminish in a short time when kept perfectly at rest and free from irritation." 428.

We confess our scepticism on this latter point, and do not clearly perceive what Dr. Macartney's *proofs* can be. Whether the following case and the attendant remarks can be considered such, we leave to our readers to determine. For our own parts we confess that they are far from convincing. It is much more likely that the tissues of the joints should inflame and swell, than that the loose body should—much more likely that it should slip into some corner than that it should grow less. But to the case.

"A lady, who is now the most distinguished tragedian on the stage, had one of these loose cartilages formed in her knee joint. For some years its presence could only be ascertained by the effects it occasionally produced. When it slipped in between one of the condyles of the femur and the head of the tibia, the pain felt was acute and overcoming; and on one occasion she fell almost as suddenly as if she had been shot, and the whole joint became immediately inflamed. I directed Goulard's lotion to be *constantly* applied in the manner I have described under the name of water-dressing, and enjoined perfect rest, with an extended position of the limb. In a few days she recovered, with only a feel-

ing of weakness and insecurity in the joint, which gradually went off. An elastic knee-cap was ordered, and in the meantime she wore a bandage, which, impeding her movements, she incautiously left off. The second attack of this kind was less sudden and painful, but attended with more swelling of the joint. It was necessary to use leeches; and when the general tumefaction of the knee had subsided, the loose cartilage could be felt on the external side of the patella. It had grown so large that it could not have been received between the bones, and therefore did not produce the same symptoms as in the previous attack. By strict rest and water-dressing she recovered in about a fortnight, at which time the cartilage had diminished so much as to be scarcely discernible. Afterwards the patient wore an elastic knee-cap for upwards of two years, during which she felt no more annoyance from the complaint; when the knee-cap seeming no longer necessary, it was left off, and I believe she has continued well ever since. There are many cases in which persons have recovered with similar treatment; and in such cases it is generally supposed that the cartilage has been removed by absorption. I have related the previous case because it affords a good example, among others I have seen, of these substances increasing under inflammation, and diminishing (whether by means of the absorbents of the joints or not) when the irritation had been removed—a practical fact of importance in the treatment of cartilaginous deposits in joints.” 430.

The following is Dr. Macartney's theory.

“No author has given a satisfactory explanation of the origin of these substances, when they have not been connected with the synovial and serous membranes, nor of their increase and change of structure after that connexion is broken, supposing it had previously existed. It is said that Laennec and Bayle asserted that these bodies were at first deposited on the outside of the synovial capsule, through which they gradually made their way into the cavity of the joint. If such were the fact, it could hardly have escaped the observation of other pathologists; but even if we should admit this account to be correct with respect to the *origin* of the loose cartilages, it would throw no light on their subsequent development, after they had passed into the interior of the joint. It is manifest that they could not enter a joint when they had acquired the magnitude and the structure that we know they frequently possess; the joint in its natural state would not be able to receive them. The most curious part therefore of their history is the fact of their growth and conversion into bone independently of any communication with the surrounding parts by means of blood-vessels. It appears to me necessary to admit that they enjoy a separate vitality, that they are influenced by the circumstances in which they are placed, and that they can imbibe nutriment from the synovial fluid and the vapour of serous cavities. This opinion is corroborated by several analogous facts. For example, I have found a tumour of a spherical form floating about in the cavity of the abdomen, which bore on one side the appearance of having the peduncle by which it had been attached broken, and the ruptured part healed with a depressed cicatrix. I possessed also a specimen of ankylosed hip joint, in which a thin shell of the head of the femur had remained unabsorbed, and lay loose in the joint, probably in consequence of escaping pressure, as a process of bone had passed through a hole in its centre and served to conjoin the remaining portion of the head of the femur with the bottom of the acetabulum. This process of bone seemed to have been the round ligament ossified. I also had in my collection a preparation of an injured elbow joint, in which a portion of the external condyle of the humerus had been entirely broken off, and remained loose in the joint. The impression on my mind is, that it was also perfectly separated from all connexion with the soft parietes of the joint; and yet it had acquired a cartilaginous surface from rubbing against the ends of the other bones. This preparation, however, with.

those that illustrate all the pathological facts I have mentioned, may now be consulted in the University of Cambridge.

The presence of synovia, and the friction and pressure that parts sustain in joints, seem to produce similar effects on different tissues. Portions of lymph, if shed into joints, soon assume the peculiar structure that characterises what are called the loose cartilages. When the ends of lacerated tendons project into joints, a number of knobs or hard bulbs are formed exactly of the same structure, and even nerves, passing naturally among the tendons and in places where they receive pressure, assume the same hard dense nature, as may be seen where the median nerve enters the palm of the hand, and where the posterior tibial divides into the two plantar nerves. That very singular change which takes place on the ends of bones, when deprived of their natural cartilages, might as reasonably be supposed to come from a deposit from the synovia, as the secretion of ossific matter of such extraordinary density. I had a specimen of the shoulder joint, in which this porcelaneous or vitreous deposit had commenced, and appeared as if the surface was covered by a number of very minute portions of glass.

The different kinds and degrees of vitality which may exist in different isolated parts of the animal body constitute a subject of great interest and curiosity, which has not yet been fully investigated. The contents of various cysts seem to possess a distinct kind of existence, and undergo some changes in their interior arrangement. If my memory serve me, there is a preparation in the Hunterian Collection of an extra uterine foetus, which had been retained in a peritoneal cyst during many years, being converted in a considerable degree into bone. The most striking example of vitality existing in detached parts is displayed in the development of the egg during incubation, when new membranes, new organs and all the parts of the perfect animal are spontaneously created out of simple fluid; the albumen merely requiring the presence of the temperature that belongs to the interior of the perfect animal; for it would be a great error to suppose that heat could impart vital power, as, under the same condition, the unimpregnated egg undergoes the putrefactive fermentation.

The vitality of the blood itself, of which no sound physiologist can entertain a doubt, exists independently of any mechanical connexion with the solids of the body; and many of the actions which prove its vital nature are exhibited when it is withdrawn from its vessels, in which it might have received some sensitive influences. It seems not unreasonable to ascribe a degree of vitality to the variolus and vaccine virus, and indeed to all morbid poisons, even in a dried state, as their power of infecting is destroyed by some means which would affect their animal organization, but not necessarily alter their chemical elements. I am aware that some chemical physiologists will deny this; but I would ask such, what is the chemical difference between the fluids of the impregnated and unimpregnated egg? In fine, to determine the precise boundary where vital power ceases and the laws of unorganic matter commence, seems to be hardly possible, without more inquiry and experiment than have yet been applied to the subject; but I think we must admit that there are gradations in vital power, from the highest to the lowest, not only in the different orders of animals, but in the different solids and fluids entering into the composition of each individual." 431.

The quotation is a long one, but less would not do justice to the Doctor's views. A fair criticism on them must be longer still, and we cannot in conscience inflict that upon our readers. At the same time we must confess, that we think Dr. Macartney pushes his notions of "vitality" too far, or rather, he attributes to the vitality of a part too much of what belongs to the

vitality of the whole. We leave, however, Dr. Marcartney and our readers to settle it.

A CASE OF AMPUTATION OF THE GREATER PART OF THE LOWER JAW.

By A. T. S. DODD, Esq., Surgeon to the Infirmary, Chichester.

We notice this case in consequence of a peculiarity in the mode of operating.

Elizabeth Goble, aged 31, married, admitted into the Chichester Infirmary, March 5, 1839. About nine years ago she found a small immovable tumour on the middle of the left side of the lower jaw. When she first noticed it, it was about the size of a nut, not tender nor painful; it has gone on gradually increasing up to the present time, but has grown much more rapidly during the last five years than it did before. Five years ago it was about the size of a walnut; during the last six months it has spread from the symphysis to the submental foramen of the right side of the lower jaw, appearing just in front of the left ear, and reaching round to the right submental foramen; it is lobulated, or rather encysted, and appears to contain a considerable quantity of fluid; she has no pain or tenderness in any part. She had lost several of the teeth of this side three or four years before she found the little swelling first mentioned. The last molar is now bent nearly horizontally inwards by the disease, and the two left incisors are lifted from the sockets, and pushed towards the right side. The healthy structure of the jaw can be felt only on a small part of the ascending ramus and angle; all the rest is enlarged and fluctuating, and may be handled any where without pain, and even the teeth may be removed without suffering. She can open and shut the mouth without any great inconvenience, and can masticate tolerably well with the right side of the jaw. The swelling projected forward so much as to separate the lip from the teeth considerably, and was here, in the situation of the external gum, covered by so thin an integument as to assume somewhat the appearance of a ranula but for its exact situation. This part of the tumour, on being punctured, yielded a straw-coloured, viscid, transparent fluid, evidently contained in a separate cyst, as the puncture emptied only a small part of the tumor. The integument of the cheek was perfectly sound; health good; catamenia regular. It was now evident that the disease consisted of encysted cavities, occupying and destroying the structure of the whole left side of the jaw; that the upper jaw was not implicated; that there were no enlarged glands in the neighbourhood; that the health was good, and the boundaries of the disease well defined.

Mr. Dodd determined to remove the disease, preserving as much of the jaw as possible. The following is the description of the operation:—

“The patient being seated in a chair, and the head supported, an incision was made from nearly opposite the articulation of the jaw to the angle; from thence along the horizontal ramus to the symphysis. The flap of the cheek thus formed, was then reflected upwards over the tumour; the mouth was then opened at the junction of the gum with the jaws, opposite the canine tooth; the gum was freely divided from before to behind, and the entire cheek turned back; in like manner

the tongue was separated from the jaw, by division of the inner gum from about an inch to the left of the symphysis, as far back as the angle. The jaw was now divided through the mass of disease in the situation of the left canine tooth, partly by the knife, and partly by shears: but the bony structure was so attenuated by pressure of the cysts, that it was not thicker than cardboard, and was therefore readily cut through. Now taking the horizontal branch of the jaw in my hand, and having with the other separated the tongue from it as far back as the coronoid process, I endeavoured, by depressing the jaw upon the neck of the patient, to bring the process forward, that I might the more readily divide the temporal muscle at its insertion. I found however that the attenuated bone was so flexible throughout, that this was impossible; I therefore cut upon the coronoid process, which was enlarged and occupied by a cyst to the very tip; it readily yielded to the knife, being only of the consistence of tough membranes; I divided it across, and afterwards with the cissors and forceps removed the lip from under the zygomatic arch. The flexible state of the ascending ramus also prevented my throwing the head of the bone forwards from the glenoid cavity as I intended; I therefore cut down to the anterior part of the glenoid articulation, and then, fearing to pass my knife round the head of the bone from before to behind, in the immediate neighborhood of the large vessels, I lifted the portion of the jaw up, and, drawing it steadily forwards and upwards, I divided from behind the pterygoid muscles, and then opening the articulation at the back part, readily passed the knife through it, from behind forwards, and thus completed the dissection. I now tied the facial artery, which was the only one that then bled, and proceeded to remove the diseased symphysis; this was readily done by dissecting off the integuments in front, dividing the muscles of the tongue behind, and then sawing through the bone near the right submental foramen. The canine and lateral incisor teeth of this (the right) side had been extracted before the operation commenced. The patient bore the operation, which lasted about forty-five minutes, with remarkable fortitude. She lost very little blood; several arteries gushed out on their division, and one large vein while opening the articulation; but the hæmorrhage was commanded by pressure of the finger at the time; and after she was put to bed only two ligatures more were required. Eight sutures were applied in the course of the wound, about four hours after she was put to bed and the parts were supported with a compress and plaister."

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The patient did perfectly well, and we need not pursue the after details. We quote Mr Dodd's observations on the mode of operating he adopted.

"It was necessity, and not my own choice, which led me to adopt the plan of opening the joint from behind; I intended, in planning the operation, to follow the mode recommended by Mr. Liston. The flexible state of the ascending ramus prevented however any attempt at throwing the condyle forward; but I found the plan of drawing the whole portion of the jaw forwards and upwards, and passing the knife from behind to before, so very feasible, and, as it appears to me, so much more likely to escape the danger of wounding the great vessels in the neighborhood than by disarticulating from the front, that I confess I am rather at a loss to know why preference is given to this latter method by so experienced a surgeon as Mr. Liston. As it was, I found that the knife actually exposed the sheath of the carotid vessels; and it appears to me to be much more easy to avoid them by dissecting from below upwards, with the jaw drawn forwards, than by turning the knife, round the head of the bone from the front of the joint, and so, in passing it downwards, separating the ramus from these important vessels.

Thirdly, I divided the jaw in two places: first at the situation of the left submental foramen, through the disease itself; and afterwards at the same point on the right side, thus making two stages of the operation, and removing the sym-

physis after the disarticulation of the jaw had been accomplished. This proceeding I adopted in consequence of the caution given by Mr. Liston (whom I consider the highest authority we possess on this subject) against the danger of the retraction of the tongue upon the division of the muscles which attached it to the symphysis of the jaw. He considers that there is more danger and embarrassment to be expected from this part of the operation than from any other. The detachment of the anterior belly of the digastric, of the genio-hyoid, and genio-hyo-glossi muscles is apt to be followed, unless great precautions are taken, by retraction of the os hyoides and tongue, and a sudden interruption of respiration. With these dangers in view, I avoided them till the very last, by following the plan above mentioned, and thus leaving the division of the muscles of the tongue till the very last stage of the operation. By this plan the operation was somewhat lengthened, but it was rendered more secure. I must however add that when the muscles in question were divided, no retraction of the tongue took place, nor had we any difficulty of the kind afterwards. Whether such accident would have occurred if the muscles had been cut through in the early stage of the operation, and the tongue had been thus left unsupported during the whole of this trying period, cannot now be decided certainly; at any rate is more than probable, and I consider myself quite borne out in the proceeding which I adopted by the experience of so eminent a surgeon as Mr. Liston, and even by the avoidance of a probable danger so important as that in question." 443.

Mr. Dodd ranks high as an operating surgeon, and this case redounds to his credit.

CASES OF ABSCESS FORMING WITHIN THE PELVIS AFTER LABOUR, WITH OBSERVATIONS. By THOMAS W. WAINWRIGHT, Esq., Surgeon to the Liverpool Northern Hospital.

Mr. Wainwright observes that his attention was drawn to this subject many years ago by the late Henry Park. His observation was as follows:—"In the course of my practice I have met with several instances of abscess forming in the cellular texture of the pelvis after labour; the thigh becomes flexed upon the pelvis, and the matter at length is discharged, sometimes at the groin, and sometimes near the anus, and at others above the spine of the ilium. They are very distressing cases, and seem almost hopeless; but the great majority of them, notwithstanding, get well. I am sure the subject deserves more attention from the profession than it has yet received, and I hope some one will give it."

Mr. Wainwright relates seven cases. Three will sufficiently illustrate, we think, the affection.

Case 1.—Mrs. W., æt. 24, was confined of her first child February 8th, 1835; nothing particular occurred during the labour; but a few days afterwards she became, as it is termed, "excessively nervous." She took a great dislike to her nurse, and at length could not endure her presence.—Six weeks passed in this way, and her nervous symptoms began to subside. Then she complained of severe pain in the right groin, extending along the fore part of the thigh; in two weeks more the thigh became flexed on the pelvis nearly at a right angle, the bowels were much constipated, she had copious perspirations, and became much emaciated. In this state she

was conveyed to Liverpool in April. The tenderness in the groin was excessive, and she would scarcely allow the slightest examination; a tumour however was easily felt, deeply seated between the groin and pubis; the motions were observed at this time to be almost white. Blue-pill and extract of henbane were given at night, mild aperient injections were administered each morning, and the diet strictly attended to; depletion was not considered desirable in her debilitated state. The secretions improved under this treatment; the pain was also relieved, and the thigh became less flexed, and the tumefaction remained as before.

The patient now resolved to go to the Isle of Man, where a temporary improvement took place; but the symptoms soon became worse, and she returned to Liverpool in June. She was then in a distressing state; more emaciated from constant pain and frequent perspiration; the swelling greatly enlarged, and, having advanced to the median line, it felt in form exactly like the distended bladder. She complained of a sense of fulness at the anus; and on examination, *per anum*, the cavity of the pelvis appeared filled up with some kind of tumor. Next morning, "something" passed with the urine "all at once." It was a large quantity of pus. The tumor was much diminished in size, and she was greatly relieved. This occurred on the 30th of June. Matter continued to flow involuntarily from the vagina for about a fortnight, whilst the urine passed unmixed as usual, so that it was evident an abscess had opened into the vagina. The limb gradually recovered itself, her general health rallied, and in six weeks from the bursting of the abscess the catarrhenia reappeared for the first time since her labour. She was again confined in July, 1837, and also in April, 1839, recovering each time remarkably well.

Case. 2.—Mrs. R. æt. 29, was confined of her first child January 14th, 1839; the labour lasted twenty-four hours, and was severe; the child was large and was born dead; the placenta separated naturally. All appeared likely to do well during the greater part of the first three days; the secretion of milk was abundant, but the lochia rather deficient in quantity, and somewhat purulent in appearance, but without any offensive odour. On the third day she had rigor, and this was followed by fever, pain in the head, occasional delirium, diminution of the above secretions, and pain in the left iliac region. Venæsection and leeches were employed with relief to the general symptoms, but the pain in the iliac region remained as before and resisted every treatment. She soon experienced great difficulty of motion; if she attempted to walk the body was bent forward, and every effort to place herself in an erect position caused great suffering; but the thigh was not obliged to be kept constantly flexed on the pelvis. About eight weeks after her confinement she perceived a uniform swelling above Poupart's ligament; this gradually increased, and was accompanied with a sense of numbness of the whole limb, but no swelling of it. A fortnight after this the tumor was opened, and a large bleeding basin full of matter was evacuated. She was now extremely reduced in strength, and greatly emaciated; had profuse perspirations, and had suffered several attacks of diarrhœa. The discharge was very copious for some time, but gradually ceased in about six weeks. Her health began to

improve from the period when the matter was evacuated, and has since remained very good.

The remaining case that we shall insert was a fatal one.

Case.—Ellen Clements, æt. 22. May 21, 1835.—This patient is in a very emaciated state. She has a fulness in the right iliac region, which is painful on pressure, and the pain extends towards the lumbar region; the thigh is somewhat flexed on the pelvis. She has a discharge from the vagina, like healthy pus in appearance, but horribly offensive in smell. By the use of the speculum this matter is seen to flow through the os uteri. It appears that about two months ago she was confined of her second child. The labour was natural, and of short duration; but the accoucheur informed her that a portion of the placenta remained, and would ere long come away. Ever since the labour an extremely offensive discharge has continued to pass from the vagina. Leeches, blisters, &c., were applied to the iliac region, and a weak solution of chloride of soda, in warm water, was used as an injection, at first into the vagina only, but afterwards into the cavity of the uterus. The vaginal discharge seemed checked, but it was soon discovered that the pain and the iliac tumor were increased in proportion; and, on the other hand, that when the discharge was more copious from the vagina, the tumor and her sufferings were diminished together; the injection was therefore abandoned. She gradually became weaker and weaker, her appetite failed, and she died July 10th. Mr. Long diagnosed that the abscess existed in the iliac fossa, and that a communication would be found within the cavity of the uterus.

On dissection, a large collection of dark-coloured pus lay beneath the peritoneum directly upon and below the iliacus internus muscle; its investing fascia was almost entirely destroyed; the muscle itself was of a dark, almost black colour. *Upwards,* the matter had passed along the psoas muscle, as far as the third lumbar vertebra, laying bare the two inferior transverse processes. *Downwards,* it had got among the muscles on the upper and fore-part of the thigh; it encircled the hip-joint, and had penetrated the capsular ligament. The cartilages, synovial membrane, and ligamentum teres, were nearly destroyed. The matter also passed round to the dorsum of the ilium, from thence over the crest, and thus communicated with the abscess in the venter; the periosteum covering both sides of the ilium was as easily detached as from a bone subjected to maceration. *Inwards,* the matter had completely dissected the anterior crural nerve, psoas muscle, and the crural vessels; and beneath these it has passed into an irregular filthy cavity, one inch and a half in diameter, formed by the uterus and the side of the pelvis. From this cavity, a round opening, sufficient to admit a crow quill, penetrated the uterus about three-quarters of an inch above the os tincæ, and conveyed the matter into the cavity of the uterus, and from thence it had passed into the vagina. The nerves were firm in texture, though brown in colour, being bathed in dark-coloured pus. The external iliac artery and vein were firmly united together, and surrounded by a brown substance, probably the cellular tissue infiltrated with pus. The uterus was of a dark venous colour, but of the natural size. The inner surface, near the fundus, presented a small white spot, to which it was supposed the placenta had

adhered. The right sacro-iliac synchondrosis was separated sufficiently to admit a sixpence, and also to allow a slight motion; but no appearance of inflammation or of suppuration could be seen at this point. The other synchondrosis and the symphysis pubis were carefully examined and found healthy.

These cases are worthy the attention of our readers.

CASES ILLUSTRATIVE OF THE PATHOLOGY OF BILIARY CONCRETIONS. By GEORGE MALLETT, Esq, Surgeon, Bolton-le-Moors.

Mr. Mallett relates three interesting cases of gall-stones. We are sorry that we have not room for more than a notice of the post-mortem examination of one. It shews a gall-stone imbedded in the pancreas.

There was an ulcerated opening through the coats of the gall-bladder, communicating with an abscess beneath the concave surface of the liver, which contained about six ounces of pus. The ulceration was evidently caused by the irritation of a moderate-sized gall stone, which was found near the opening, but still within the bladder. Upon examining the other organs, all were found in their natural condition with the exception of the pancreas, which contained a hard encysted body, and proved to be a gall-stone about three-quarters of an inch in diameter. The pancreas was not found either in appearance or structure altered; and the concretion must have been imbedded there for some time, as no trace of its passage could be discovered. Thus, then, was explained the cause of his sufferings some years previously, and their cessation till another gall-stone had formed, then expulsion in a similar way was attempted; but inflammation, abscess, and death, were the consequences.

A REPORT OF THE OUT-PATIENTS ATTENDED BY F. RYLAND, ESQ., AT THE BIRMINGHAM TOWN INFIRMARY, between the 25th Dec. 1837, 12th Dec. 1839.

We regret the following announcement:

"The present report contains the result of parochial practice for nearly two years, viz, from the 25th of December, 1837, to the 12th of December, 1839; at which latter period I resigned the appointment of Surgeon to the Birmingham Town Infirmary." 481.

Mr. Ryland has placed the tabular reports for two years side by side, in order to shew the great resemblance that one year bears to another in the numbers that are attacked by such diseases as owe their origin to the season, to occupation, habits of life, or accidental circumstances, and the disparity which exists between the numbers affected in each year by the epidemic and contagious diseases. Hooping-cough, which at first sight appears to offer an exception to this remark, does not do so in reality; for though the numbers in each year attacked by this disease approach to an equality, this is owing to our having in the table the rise and declension of a single epidemic, which commenced in the second quarter of 1838,

continued through the autumn and winter, and disappeared in the summer quarter of 1839. In 1838, there were fifty-two cases of small-pox; in 1839, only three; whilst of scarlatina, in 1838, there were three cases only, and in the following year thirty two.

The cases of rubeola were, for the whole six years, two hundred and two in number, and the deaths thirty-six, being about one in five and a half. The number of cases of scarlatina was two hundred and thirty-eight; of deaths, thirty-three, or one in seven and a quarter. The cases of variola numbered one hundred and seventy-nine; the deaths from this disease were thirty-six, one in five.

It appears therefore that scarlatina occurs rather more frequently in Birmingham than measles, and the latter more frequently than small-pox; and that the rate of mortality of these three diseases is in an inverse ratio with their frequency. The prevalence of measles as an epidemic, in 1834 and 1836, is well shown in the table. The moderate continuance and harmless nature of scarlatina in 1834 contrast well with its great prevalence and increased mortality in the latter part of 1835 and in the beginning of 1836. The same disease is seen to have occurred in a sporadic form in 1837 and 1838, and to have again become epidemic towards the close of 1839. It has since produced great ravages in Birmingham. Variola was prevalent and very fatal in the first half of 1834, after which it subsided for several months; it re-appeared at the close of 1835, and continued, with moderate frequency, till the end of 1838, since which time there have been scarcely any cases of this disease.

The *measles* of the latter part of 1839, though the cases were neither numerous nor fatal, was marked by some peculiar features, which were attributable in all probability to the long continuance of cold and damp weather during the summer and autumn of that year. The cases, thirty in number, all occurred in September, October, and November. The earlier cases were simple in their nature, and soon recovered; but about the middle of October it was observed that the catarrhal symptoms attendant upon the attack of measles were of an especially severe nature. The secretion from the nose was great and most acrid in its character, occasionally mixed with blood, and causing much excoriation in the neighborhood of the nostrils. The mucous membrane of the mouth also inflamed and ulcerated, and the tonsils partook largely of the inflammation; the submaxillary and cervical glands became swelled in some instances to such a degree as seriously to impede respiration and deglutition. In two of the fatal cases the measles were complicated with asthenic bronchitis, which however appeared to yield to stimulating expectorants, counter irritation, and good food, but the mucous membrane of the mouth, in both instances, became extensively ulcerated, the gums separated from the teeth and from the alveolar processes; the submaxillary glands and the surrounding tissues swelled so much as to render the chin scarcely discernible, and death took place about the fourteenth day. The other fatal case was similar in its result, but much more rapid in its course. The patient, a boy *æt.* 2, broke out with measles on the 2nd of November. The eruption was well marked, and the catarrhal symptoms severe. On the 4th there was acrid discharge from the nostrils, with aphthous ulcerations about the inside of the lips and edges of the tongue. The submaxillary glands were enlarged

to such a degree that the neck was almost continuous with the cheeks, and the chin was undiscoverable; respiration was slightly impeded, hard cough, and great difficulty of swallowing. The child died on the 5th (the fourth day of the disease,) apparently exhausted, without evincing any sign of suffocation. Permission to examine the body could not be obtained.

The glandular swellings generally yield to the application of leeches, fomentations, and poultices; in two or three instances they terminated in abscesses. In the scarlatina of the present winter similar glandular swellings have been present in almost every case.

Two of the cases of measles were complicated with inflammation of the trachea. In the first, a stout lad between two and three years old, the eruption was preceded more than two days by severe croupal symptoms, which required bleeding and strong doses of calomel and tartarised antimony for their removal. When the measles were fully developed, the croupal affection became much better; but as the boy had taken in the two days more than fifty grains of calomel and five grains of tartarized antimony, some of the amelioration that took place may safely be ascribed to the medicine. Mr. Ryland, however, has often noticed in these cases that the appearance of the rubeolar eruption is followed by amendment in the croupal symptoms. This boy was convalescent on the seventh day, and soon recovered completely.—The other case was a girl, seven years of age, residing in the same court. The measles and the tracheitis commenced together after slight precursory illness of seven days' duration; the full development of the eruption was neither beneficial nor otherwise to the croupal attack in this case. Leeches applied along the sides of the trachea, and small doses of calomel and antimony soon relieved the urgent symptoms; general bronchitis succeeded to the tracheitis, and the girl ultimately got completely well.

Scarlatina was rather prevalent during the last quarter of 1839; but, relatively considered, it was not very fatal in its effects. Three instances of death from this disease are recorded; one from malignant cynanche in combination with scarlatina; the second from head affection, and the third from a cachectic condition induced by the fever; the cornea of the left eye sloughed, the umbilicus was implicated in a large sloughy ulceration, the nates also sloughed, and the child died between three and four weeks from the time of seizure.

Fever was not so prevalent in 1839 as in the previous year, nor was it quite so fatal in its effects: its character in many instances, and particularly in certain localities, typhoid, and two of the children who died of this disease had gangrenous inflammation of the mouth and necrosis of the upper jaw.

Inflammatory affections of the mucous and serous membranes were less frequent in their occurrence in 1839 than in the preceding year, and both absolutely and relatively were less fatal.

The deaths from carcinoma, phthisis, and scrofula, in 1838, were seventeen, bearing a proportion to the whole number of deaths in that year of about one to five. In 1839, the deaths from the same three diseases amounted to twenty-five, which was more than one-third of the total number of deaths for that year. Of the forty-two deaths from these causes, twenty were males, all of whom died of phthisis. Of the twenty-two females,

fourteen died of phthisis, six of carcinoma of the uterus and mamma, and two of scrofula.

Some other remarks and several tables will repay perusal.

A REPORT OF THE CASES ATTENDED AT THE BIRMINGHAM EYE INFIRMARY, During the Years 1838 and 1839. By RICHARD MIDDLEMORE, Esq., Surgeon to the Infirmary.

1. Case in which an Operation for Artificial Pupil was performed on an Eye previously affected with Staphyloma of the Cornea.

"In the sixth volume of the *Transactions* I relate the case of James Shephard, who became my patient at the Eye Infirmary, after having left the Birmingham Hospital, into which he had been admitted in consequence of a severe accident which had seriously injured his face and eyes. When I first saw him, the *right* eye was entirely collapsed. More than half the lower portion of the *left* cornea was extremely opaque and prominently staphylomatous, the pupil was almost obliterated, and the iris extensively adherent to the upper margin of the staphyloma. The mode of treatment employed for the cure of the staphyloma consisted in the repeated tapping of the part by means of a fine iris-knife; it being evident that excision or any similar mode of cure would have unfitted the eye for the performance of an operation for artificial pupil, which presented the only chance of restoring to the patient any degree of vision. On the cure of the staphyloma, the patient being still blind, was persuaded to go to the Bristol Asylum, where he was taught to make baskets. He remained there until June, 1839, when he returned to Birmingham, and called upon me, expressing a strong wish to have an operation performed. On this occasion he was led to my house by a little child, being unable to find his way, without assistance, about the streets of the town in which he had lived many years." 501.

At this time *more than one-half* of the cornea, at its lower part, was densely opaque, the pupil nearly obliterated, the iris extensively adherent to the opaque cornea; but, from the slight glance of and exceedingly minute pupil which it was just possible to obtain, by looking downwards as the patient sat on a low seat, it was ascertained that the lens and its capsule were transparent.

"*Operation.*—August 6th, 1839. Present Mr. Jones and Mr. Clarke.—Raising the upper lid without pressing upon the eye-ball, I made a small section of the cornea at its superior part, through which I introduced a fine iris hook, and very cautiously drew out a portion of iris, which, as I could not excise it with the curved scissors without a risk of touching the capsule or dislocating the lens, I left to be strangulated between the lips of the incision of the cornea. The iris bled a good deal after the operation; but by keeping the patient quiet in bed, and by the adoption of various antiphlogistic measures, the effused blood was absorbed, acute inflammation was prevented, and the patient's vision so far restored that he has this day read to me, with tolerable ease, and without glasses, a portion of the former part of his case published in the sixth volume of the *Transactions*. The pupil I have made has a smooth margin, being formed, not by excising a portion of iris, but by detaching its pupillary margin from the staphylomatous cornea, to which it was extensively adherent; it is of good size, being neither very large nor unusually small; it is somewhat oval in shape, and extends from the upper border of the staphyloma nearly to the corneal margin at its superior part, where I made the incision."

Mr. Middlemore has received and merits great praise for this proceeding.

2. Ossification of the Lens.

The patient is David Phillips, a silk dyer, aged 45. About sixteen years ago he received a blow upon the left eye from a piece of turnip, which was purposely thrown at him. The eye was a good deal inflamed soon afterwards, and required treatment, which had the effect of relieving, and, as he then thought, of curing him. About a year afterwards his friends perceived a *speck* in the eye; at this time his vision was impaired, and was soon entirely lost. Lately the sight of the *right* eye has become dim, and on this account, as well as on account of the state of the *left* eye, he came to the Infirmary.

State of the right eye.—Pupil rather larger than natural; movements of the iris sluggish; vision by no means perfect.

State of the left eye.—A solid body is situated in front of the iris, in which are seen a number of densely white lines, radiating from its centre to its circumference. It has the shape and size of the crystalline lens. The eye is scarcely at all inflamed, but he says it feels very uncomfortable.

With Beer's knife, Mr. Middlemore divided the lower part of the cornea quite as freely as in an ordinary operation of extraction, and in a few minutes, on making slight pressure upon the eye-ball, the ossified lens passed through the opening. In a fortnight the patient was able to return home. The pupil is circular and clear, the wound united, and vision slightly improved. The lens is ossified throughout the whole of its texture, it is of its ordinary size and shape, has a radiated appearance, and is of a dirty white color.

3. Case in which one Eye was extremely Large from Birth.

James Bembridge, æt. 4. Left eye of ordinary size and dark colour.

Right eye.—The cornea is nearly double the size of that of the left eye; the anterior chamber amazingly ample, so as to equal in size an extreme case of dropsy of the anterior chamber. The pupil is large, and sluggish in its action. The cavity containing the vitreous humour is as large in proportion as that containing the aqueous humour. At the upper part of the cornea, and along its margin, there is a peculiar nebulous appearance, as though the cornea was seen through the conjunctiva, which was prolonged upon its surface, so as somewhat to overlap its margin. The boy has scarcely any sight with this eye; it is however free from inflammation, and by no means very painful. The lids are projected by the large globe; sometimes the right eye is rendered a little uncomfortable, and the appearance of the child is peculiarly disagreeable.

"I have lately," observes Mr. M. "seen a similar state of eye in a patient attended by Mr. Royston, of Redditch. In this, as well as in Bembridge's case, I have recommended that nothing should be done unless the globe should continue to enlarge, unless it should give rise to irritation of the opposite eye, or unless the subject of the affection should after a time be anxious for an operation on the ground of personal appearance. I have in several such instances evacuated the aqueous humour with a fine cataract needle or iris knife, and in this way prevented the disease from increasing. In one instance I excised a small portion

of the centre of the cornea, and with the effect of much lessening the size of the globe, but not of producing its diminution sufficiently to allow of the patient's wearing an artificial eye." 506.

4. *Tumour situated at the Cornea-Sclerotic Junction.*

Mr. Middlemore relates two cases. We shall insert one.

Case.—"William Davis, æt. 25, has a small tumour, about half the size of a pea, situated partly upon the cornea and partly upon the sclerotica, or to speak more correctly, it appears to supersede a portion of the membranes, whose place and situation it occupies. It is of a dirty white colour, convex externally, of a firm texture, and apparently covered by conjunctiva, which cannot however be moved upon its surface. The tumor has existed from birth, and does not, he says, increase in size. He came to me, at the infirmary, in consequence of the irritation produced by a few hairs which grew from a slight depression at the centre of the little tumor. These hairs are curved like the eye-lashes, are of the same colour, about the same length, but are scarcely so strong. The presence of the hairs was first pointed out to him by a friend about a year ago; and even now they excite scarcely any irritation, except when the longest of them reposes on the cornea. On the extraction of the hairs all irritation subsided. I have requested him to procure a proper pair of forceps, and to remove them for himself whenever they are sufficiently long to occasion him any inconvenience." 507.

Mr. Middlemore remarks:—"This is an extremely unusual defect. I have many times seen a tumor similar to that in the eye of Wm. Davis, (whose case has been just related,) which is of a dirty-white colour; and I have also seen tumors of the red colour, and possessing a granular surface, somewhat like a small mulberry; but it has rarely fallen to my lot to notice a disease such as exists in this instance. And here I may remark that in no instance which has fallen under my observation has the disease existed in both eyes. I believe that in cases like the present we had better not interfere, at least with a view of removing the mere personal defect about which parents are generally very anxious. They seldom give rise to much inconvenience, or increase in any material degree. In one instance, somewhat similar to this, an attempt was made by a surgeon to remove the disease by shaving the prominence it occasioned down to the level of surrounding parts, and the results of this improper proceeding was supperation of the eye-ball."

5. *Large Tumor produced by the Escape of the Vitreous Humour beneath the Conjunctiva.*

Joseph Hill, æt. 19, received a blow upon the eye about six years ago, on account of which he applied to a surgeon, who, after the lapse of several weeks, succeeded in removing the inflammation excited by the injury, but was unable to preserve the sight of the eye. About two months ago he received a slight injury of the same eye, which produced a small swelling, which has rapidly increased until it has acquired its present size.

State of the eye.—Cornea slightly opaque, particularly at its temporal side; pupil closed. At the outer side of the cornea there is a tumor as large as a good-sized walnut, which evidently contains fluid.

Mr. M. introduced a fine cataract needle into the swelling, discharged a quantity of thin pale yellowish fluid, and then directed the patient to

close the lids, upon which he passed a fine roller so as to prevent them from being opened, and requested him to keep the part quiet for a few days, to take a little aperient medicine, and confine himself to low diet. In a few weeks the eye was pretty much in the condition it had been in previously to the last injury.

6. A curious case is related, in which a *piece of tobacco pipe one inch and three-eighths long*, was impacted in the orbit, and sneezed out. Vision of the eye was lost, although the eye was not wounded.

7. *Partial dislocation of the Lens through a Rent in the Sclerotica.*

Sarah Hanson, æt, 55, received a blow upon the eye whilst breaking a stick.

State of the eye two days after the occurrence of the accident.—Small tumor at the nasal side of the sclerotica, a little behind its junction with the cornea, which is covered by the conjunctiva. The pupil is drawn in the direction of the tumour as though a portion of the iris were absorbed. One part of the margin of the lens is seen to occupy a portion of the pupil, the other is placed behind the corneo-sclerotic junction, and is covered by the conjunctiva, which is of a dark-red colour, from the effects of the recent contusion.

Operation.—Lens readily removed by a free division of the conjunctiva.

After-treatment.—A light roller was passed around the lids, which were carefully closed. The patient was directed to keep her bed, and to take a little aperient medicine. No severe inflammation occurred after the operation; and, in the course of a few weeks, there was the following entry —“*Cornea clear, pupil a little drawn towards the lacerated opening in the sclerotica, vision extremely imperfect.*”

8. *A Piece of Steel in the Anterior Chamber in Contact with the I is.*

“John Fugh, 32, tool-maker. Whilst at work, a portion of hard steel was detached from a punch, and forcibly struck his left eye. Two days afterwards he called upon me, when I made the following notes of his case: —“Pupil clear, but contracted; its mobility somewhat impaired; iris dull and in a state of inflammation; at its temporal side and in its anterior surface a small portion of metallic-looking substance may be perceived, which he tells me is a portion of hard steel detached from a punch with which he was working.”

Treatment.—Bleeding, mercury to the production of moderate pyalism, cooling lotions, and low diet.

Result.—After remaining on the books little more than a fortnight he was discharged, his eye being quite well, with directions to return if a relapse of inflammation should take place.

The metal is still to be seen in contact with the iris, but his vision is as good as it was prior to the accident. The only difference of any sort which can be perceived is, that when the pupil is expanded that portion of the iris with which the metal is in contact (the anterior surface and temporal side of the iris) appears to be paralysed, so that the pupil possesses a shape very much like the letter D.

This is another instance exhibiting the good effects of making no effort

to remove a foreign body by a surgical operation, when it has completely passed into the anterior chamber.

SUGGESTIONS AS TO A FORM OF REGISTER FOR HOSPITALS, DISPENSARIES AND PRIVATE PRACTICE. By CHARLES COWAN, M. D.

We quite agree with Dr. Cowan on the value, nay necessity, of an accurate registry of cases. Medicine would be greatly improved were such general and uniform in private practice as in public.

Dr. Cowan suggests that the size of the register, when open, should not be less than from thirty to thirty-two inches across, and the depth of the page about twelve. This, including the printed headings on the top, will admit of the insertion of eighteen cases on lines six-tenths of an inch apart. The paper should be strong, and ruled in red ink, and the book thick in proportion to the wants of the institution, and adapted for at least two years' registration, to avoid expense. Separate books should be provided for the physicians and surgeons, and also for the in and out-patients. If two physicians or surgeons attend on the same day, each officer ought to have his own book. The cases should be registered invariably at the time of admission, and every thing inserted which can be then ascertained. In dispensaries of limited extent, a single register might prove sufficient.

We shall now make a few remarks on the use of the register.

A simple inspection will show that many of the columns require only a mark (1), as those for *age, sex, married, single, recovered, made in or out-patient*, and they follow each other in a convenient and natural succession. The "*number of days on books*" is the interval between the date of admission and date of discharge; and the "*total duration*," consists of the addition of the two columns immediately preceding it. Except when the diagnosis is not doubtful, it is better to insert it when the patient is discharged. The usual single column of "*result*" has, it will be seen, been divided into several, for the purpose of accuracy and easy revision. "*Incurable*" includes all cases evidently hopeless; these may be also marked "*relieved*" or "*left-sick*," if not benefitted. "*Convalescent*" should be restricted to such cases as are fully expected to recover. "*Irregular*" includes all cases where the result is unknown. "*Cause of death*" is intended for instances where the fatal result is depending on accidental causes; the use of it is to make the estimate of the mortality more accurate. "*Made in or out-patient*" is an important point to notice, the same patients being frequently counted twice over in the reports. "*Treatment*:" this column is optional, but should always contain a statement of any surgical operation. "*Observation*:" this is also optional but may be used to give an outline of the case, or to refer to any particular point of interest; or the space may be occupied by any other fact which the observer may wish to notice. The "*state of health*" of the patient at the time of admission would be a useful detail; and there are other points which might be also recorded, but which had better be left to the zeal and sagacity of individuals.

Dr. Cowan also suggests a common nomenclature for disease—and he recommends that of Mr. Farr.

The following are the headings we recommended, with the spaces of course proportioned to the nature of the fact, and the size of the book :—

RIGHT HAND SIDE.

No.	Name.	Sex.		Married.	Single.	Residence.	Occupation	Date of admission	Date of Discharge.	No. of days on books.	Anterior duration	Total duration	Disease.
		M.	F.										
1	John Cooper.	20	1	..	1	Reading	Smith.	Jan. 1	June 21	20	10	30	Bronchitis.

LEFT HAND SIDE.

:	Recovered.												
:	Relieved.												
1	Convalescent.												
:	Left sick.												
:	Incurable.												
:	Irregular.												
:	Died.												
.....	Cause of death.												
1	Made in or out-patient.												
	Treatment.												
	Observations.												
	Medical attendant												
	Dr. Cowan.												

"Before concluding this part of our subject we would submit the following form of headings for cases, which is rather more convenient than the one we previously proposed. The remainder of the sheet is to be divided by a central line, one side for observations, the other for treatment. When bound, they form a convenient case book, and when separate are well adapted for dispensary practice. Patients attending the institutions should leave them on the spot, and if seen at home should always have them ready for the medical attendant. If kept distinct for each medical officer, and filed as the patient is discharged, no confusion would result. The convenience of the practice is great, saving trouble and assisting the memory.

Name	No.	Age	State
Occupation	Residence		
Anterior duration	Admitted	Discharged	Days treated
Cause	Hereditary	Result	
Diagnosis			
Observations			

This register may with very slight alterations, be adapted for private use. For this purpose it is only necessary to devote the left hand page, after the last column for result, to "treatment" and observations."

THE CYCLOPÆDIA OF PRACTICAL SURGERY. Edited by *Wm. B. Costello, M. D.* Illustrated with numerous Engravings and Woodcuts.

SINCE our last notice of this work, two additional Parts have appeared, and the first volume, containing nearly 900 pages, has been completed. After the long suspension of its progress, which had necessarily awakened fears as to its continuance, it is satisfactory to see it now advancing at a steady pace, and maintaining the interest which its early parts had created. The editor has had to bear blame, perhaps unjustly, for not having kept time with the public—there must in such cases, be some scapegoat—but after all, the real delinquents are those who get off scot-free; we mean the contributors, who feel no compunction whatever for breach of promise to the editor, who is thus compelled in a work alphabetically arranged to disappoint his readers. Delay or disappointment in an undertaking of this magnitude is always detrimental, and should be avoided, if possible; a serious responsibility therefore rests with those, be they few or many, who mar the efforts of their fellow-labourers, by not completing at the appointed time the tasks they had undertaken, and no excellence of performance will be a sufficient compensation to them or to the public for such culpable remissness. The editorial duties, when conscientiously discharged, as they have been in the present instance, are sufficiently painful and laborious of themselves, and ought not to be aggravated by the failures of contributors on the one hand, which lead necessarily to the discontenting and estranging of patrons on the other.

The work itself has not disappointed the expectations of the profession. It is not made up of a series of dissertations, with here and there one by an able hand, shedding its brilliancy and light over a dull blank of monotonous mediocrity—an oasis in the waste. There is an uniformity, a substance, a completeness, a power and tone throughout, creditable not alone to the individual writers, but to the time and country in which we live. The Cyclopædia of Practical Surgery may not only challenge, but will advantageously sustain comparison with any other similar work of other countries, and if we infer the extent and superiority of the education of the surgeons of this country as a body, from the high character of the work before us, considering it as a book of reference prepared for them expressly, we cannot but rejoice at the changes which have been brought about within the last quarter of a century.

Part VII. commences with the continuation of Cancer, an article so ably drawn up as fully to justify, in our opinion, the high eulogy of Dr. Warren, of Boston, "the ablest treatise on cancer that ever was written." We shall not, however, re-open this subject. Its author, Dr. Walshe, has begun to reap his laurels, having, within a few weeks, been appointed to the chair of Dr. Carswell, in University College.

The article *Cancrum Oris*, by Dr. Hennis Green, is well and lucidly drawn up. We must however content ourselves with passing praise, as the abundance of the matter contained in these two parts, and their claim upon our notice, bear an overpowering proportion to our limited space.

Next, is an article on Castration by Sir Astley Cooper. It is simply a description of the operation, and the circumstances under which it is performed. It possesses, in addition to the interest attaching to anything bearing the recommendation of so revered a name, that of being the last contribution of his pen. It may be here stated as a trait characteristic of his ardour and zeal in the cause of science, that he evinced the deepest interest in the progress of the *Cyclopædia of Surgery*, and at the time he was seized with his last illness, was actually engaged in re-writing his *Memoir on Dislocations*, for this work.

The article *Cataract*, by Dr. Watson, is an excellent contribution, and is illustrated with a well-executed engraving of the various forms of the disease, and of the instruments now generally in use for performing the different operations of cataract. The subject of the appreciation of the operations themselves in regard to the preference which one may deserve over any other in its applicability to a particular case, is well handled. We, however, must pass this over, contenting ourselves with one extract embracing some novel points in the diagnosis.

"Catoptrical exploration of the state of the lens as regards its transparency or non-transparency.—This mode of exploring the eye, first invented by Professor Purkinje of Breslaw, has come into general notice only since M. Sanson published his clinical observations on the subject. 'The young practitioner ought never to pronounce absolutely even on the existence of cataract without dilating the pupil by *belladonna*, and examining the eye *catoptrically*; and the most experienced may derive advantage from exposing in this way the whole field of the disease to his view, and testing the state of the crystalline.'"

If a lighted candle be held before the pupil of a sound eye, three reflected images of it are seen situated one behind the other. Of these the anterior and posterior are erect, the middle one inverted. The anterior is the brightest and most distinct, the posterior the least so. The middle one is the smallest.

If the candle be moved, the two erect images follow it; but the inverted image moves in the opposite direction, though not so quickly and extensively as the other two.

The anterior erect image is produced by the cornea; the posterior, by the anterior surface of the lens; and the middle or inverted image is from the posterior surface.

If the whole crystalline body be opaque, no image but the anterior erect one from the cornea is seen. This is of course the case also if the anterior part alone be opaque; but if it is the centre or the posterior part only which is opaque, the two erect images are seen, but the middle or inverted one is not.

To apply this catoptrical method to assist the diagnosis of cataract, when the ordinary mode of examination may not have cleared away all doubt, 'the observer and the patient should be placed in moderate day-light; the patient's back is to be turned towards the window; he should be seated, so that the observer may look rather down into the eye than upwards: and a candle is to be used which burns steadily, and does not blaze much.

Cataract, even at an early stage, obliterates the inverted image, and renders the deep erect one very indistinct. Glaucoma, only when much advanced, obliterates the inverted image, while, in all its stages, it renders the deep erect one more evident that it is in the healthy eye.'

Dr. Mackenzie has found that in glaucoma, at a middle stage, the inverted

image is pretty distinct, when formed near the edge of the crystalline ; but if the candle be brought in front of the eye, the inverted image is less distinct, and in some cases is altogether extinguished. This extinction of the inverted image is owing to a loss of transparency in the kernel of the lens which, in glaucoma, Dr. M. has found, suffers a peculiar degeneration, characterized by dryness of substance, and a reddish brown colour.

In incipient lenticular cataract the inverted image, though changed neither in colour nor in size, is indistinct, and its outline as if washed off. It is extinguished long before the cataract is fully developed—a fact of the greatest importance, Dr. M. remarks, in the diagnosis betwixt glaucoma and cataract, because in lenticular cataract, it is not the kernel of the lens, but the superficial laminæ, which are first affected, so that the formation of the inverted image by any part of the posterior surface of the crystalline body is prevented.

In capsulo-lenticular cataract, the inverted image fades much sooner than in mere lenticular cataract ; and even when the capsule, or the superficial substance of the lens, seems to be alone opaque, the inverted image disappears much sooner than we should expect from the apparently moderate degree of opacity.

In lenticular cataract, there is merely a general reflection, but no distinct image, from the anterior surface of the crystalline body.

If the lens is not in its place, but has been absorbed in consequence of an injury, been removed by an operation, or fallen down into a dissolved vitreous humour, neither inverted nor deep erect image is formed.

In the diagnosis of incipient cataract and incipient amaurosis, the catoptrical test is perfectly decisive ; for in amaurosis, uncombined with glaucoma, the three images are always distinct, while in even the early stage of cataract, the inverted image is obscure. The diagnosis of incipient cataract and incipient glaucoma requires the catoptrical test to be familiar to the observer, else he may not be able to distinguish, that when the candle is held in the axis of the eye, the inverted image is indistinct in both diseases, but whenever it is moved to one side, it becomes distinct in glaucoma, and remains obscure in cataract.*

To this succeeds an article on Catheterism from the pen of the editor of the Cyclopædia, and which being, as our French neighbours would say, a subject within his own speciality, claims our notice. After disposing of the definition of the word catheterism, he thus addresses himself to his subject.

“However inconsistent the avowal may appear with our present purpose, it is nevertheless perfectly true, that dexterity and suavity in the introduction of instruments is less to be acquired by the precepts hitherto inculcated in books, than by practice and example, and even some of the rules laid down to guide us on this point do not deserve to be particularly extolled. The surgical doctrine of catheterism stands in great need of simplification, and the few rules that really are useful with relation to it require to be redeemed from that over refined elaborateness, the effect of which is too frequently to intimidate the young surgeon, thus insuring a clumsy and painful performance of this surgical ministration, from the mere dread of a barely possible mischief. To him who possesses the necessary anatomical and physiological knowledge, sounding the bladder when the urethra is healthy and unobstructed may soon be rendered a simple and easy operation. But the instructions derived from books alone will not suffice ; they are, in too many instances, the offspring of superficial observation or vague theory, and too frequently when obstacles occur, a reference to those rules will afford no assistance whatsoever in overcoming them.

The great diversity of conformation in the parts concerned in catheterism, the variety of instruments employed for the purpose, with many other circumstances, seem to authorize the multiplication of rules to govern us in its performance. But the real truth is, the attempt to regulate and refine on all the incidents belonging to it, by obscuring the simple nature of the subject, has only tended to perplex and embarrass us in the consideration of it. Had the canal of the urethra been of equal diameter or purely cylindrical, and had it followed the same direction throughout its entire length, the operation of passing the catheter would be comparatively simple, and one general rule would embody all that could be said on the subject. But such is not the case. The points, therefore, that occur in its course where the cylindrical form does not exist, and those in which its direction is altered, are those which it is important to study, with a view to the easy, painless, and safe mode of introducing the catheter." 735.

In his reasoning on the condition of the urethra, Dr. Costello makes use of its natural division into a *fixed* or post-pubic, and a *moveable* or ante-pubic portion; the former commencing at the triangular ligament, and terminating in the bladder, the latter extending from the glans to the triangular ligament. On this division, he founds his rules for the introduction of instruments of every kind. He thus expounds this point:—

"In our consideration of the urethra it will be seen that we consider the entire canal in man as composed of a male and female portion; the former associated with the penis, moving with it in every direction, serving for the object of sexual congress specifically, and but incidentally only for conveying the urine out of its reservoir; in a word, the *moveable* division of the urethra; the latter, similar in structure in both sexes, in both having the same length and direction, and more or less closely attached to bones or enveloped by muscles, the *fixed*, or female urethra. Philosophically speaking, the female urethra is the type of the canal and exists alike in both sexes: all the ante-pubic portion is but a prolongation of the tube, superadded for a purpose wholly different from that of the excretion of urine. All this anterior portion is confessedly moveable, and the admission is equivalent to a demonstration of the inutility of the rules laid down for the introduction of instruments, as far as this portion of the canal is concerned, whether it be by the ordinary mode *above the pubis*, or by the so pompously named *tour de maître*. An instrument, whether straight or curved, can be carried down to the bulb, no matter whether the direction of this portion of the canal be upwards, downwards, forwards, or lateral; whether it be curved or straight. This point being indisputable, the question arises,—what mode of penetration is easiest for the operator and for the patient? what mode should be preferred with reference to the fair direction of the bec of the catheter into the commencement of the second division of the canal, and its ulterior progress through this fixed portion towards the bladder? The best, the easiest, the least painful is undoubtedly that which insures the unimpeded passage of the bec throughout the whole course from the glans to the bulb: which leaves no doubt as to the bec arriving at this point without stopping short of it or going beyond it, and which places it most favourably by the performance of a very simple manœuvre, for falling directly into the opening of the triangular ligament." 740.

After finding fault with the position which by former rules the surgeon is directed to take in regard to the patient upon whom he is about to introduce the catheter, he thus describes his own mode:—

"The patient being in the recumbent posture, the surgeon stands on his right. The relaxation of the parts having been procured in the manner already described, he seizes the penis behind the glans, between the ring and middle finger,

while the index finger and thumb, set on opposite sides of the glans, uncover the orifice of the urethra. The glans being inclined towards the right thigh, the surgeon, holding the catheter like a writing pen, in an arch over the right thigh, presents its bec to the orifice of the glans, which is already turned to meet it. Throughout the whole course which the catheter has now to run, its bec glides upon the right side of the canal, the concavity of its curve looking to the right side, while the curve itself is seen arching the canal above the scrotum, until the point arrives at the bulb.

The ease, brilliancy, and lightness of execution of catheterism depends entirely upon the manœuvre now to be performed, of passing from the bulb to the entrance of the muscular portion,—the sill, as it were, that divides the whole urethra into its male and female portions. The shaft of the catheter is now resting over the thigh, but not in contact with it, and its bec is in the bulb.

It must be lifted from the thigh, and brought up to the perpendicular by a movement of a quarter of a circle, the centre of which is the bulb; in other words, the handle of the catheter moves round a quarter of the base of an inverted cone, while the bec pivots on its apex. But these movements, though described as distinct, must be made to follow each other without interruption; they must not be executed, as if they were two 'times' of the same process, but must run into and blend finely with each other, so that the movement of lowering, in which they terminate,—that movement in which the handle of the sound is brought down from the perpendicular till it lies inclined between the thighs, shall either bring the bec exactly into line with the muscular part of the urethra, when by a gentle impulsion applied at this part of the movement, it is propelled directly into it, or toppling on the right edge of the aperture in the triangular ligament, as it were on the edge of a bowl, it falls into it.

There will of course be some variation of the process, where the patient is sounded in the erect posture. In such case, the surgeon may prefer, introducing the catheter in a line with the hollow of the groin, instead of arching it over the thigh; but the variation will merely consist in the instrument describing a lesser fraction of the circle, while the hand is bringing it up from the groin to the perpendicular." 741.

This article on a subject of so much importance abounds with clear practical views and rules which cannot fail to improve our acquaintance with it, while the Essay itself must enhance the reputation of its author. We shall make room but for one more extract, descriptive of Dr. Costello's *self-guiding* catheter, which is now becoming better known to the profession.

"The catheters already in use being commonly of equal diameter, and rounded or oval at the point, present the same unvarying relation to every point of the canal whether it be narrowed or dilated; and hence the obstacles (natural obstacles, as they are termed) that oppose the progress of the instrument upon the slightest misdirection of it in those points of the canal where its diameter varies abruptly. I have had a fair share of experience of this subject and have thought much upon it, and no doubt now remains on my mind of our possessing the power of obviating the difficulties of catheterism, as arising from these obstacles, by the form of the instrument which has now been for some time subjected to the test of daily use.

In speaking formerly of the choice of a catheter I dwelt much on the importance of its bulk; the largest, when not disproportioned to the calibre of the canal, being in general the best. The reason of the preference is obvious,—the large instrument, according as it advances in the urethra and unfolds the membrane, forms a small vacuum before its bec, and thus its route is opened and prepared for it in a manner which does not obtain when a small instrument is

employed, for in the latter case the folds of the canal are in close contact with its point.

The qualities that seem to me desirable in the catheter are the following:—

First, the volume, or size, should be full, in proportion to the calibre of the urethra.

Secondly, its shape should be such that the small vacuum in advance of the bulk of the catheter, and produced by it, shall be occupied by a small guiding prolongation of its point, inclined to the upper surface of the canal.

Thirdly, on its under surface its shape, between the tip of the small prolongation and the part at which its fullest diameter is developed, shall be such as to occupy or accommodate itself to the depression as it passes them, and to depress and flatten the eminences on the under surface of the urethra as it passes over them.

Fourthly, that the eyes shall not be too large, and that they shall be so placed as not to present any obstacle to the progress of the sound, either by their being plugged or stopped up by the lining membrane of the urethra.

It will be evident on examining the catheter I propose, that its form fulfils all the conditions required in relation to the canal in its passage down to the bladder.

Its form in all respects is the same as that of an ordinary catheter, except from the eyes to the termination of the beak, and in this portion its shape is entirely different from that of the instrument in general use. The whole of this portion consists of three parts, a neck, head, and beak, and bears a strong resemblance to the neck, head, and bill of a swan.

When a catheter of this shape is passed into the urethra the bulk of the head is sufficient to unfold the membrane in advance of it; the bill occupies the vacant space thus made, and continues to move along smoothly in contact with the upper surface of the urethra, from which its extreme point is so fashioned as to incline slightly towards the axis of the urethra. When it arrives at the bulb, the bulk of the head occupies this depression, while the guide or bill is necessarily directed into the middle of the isthmus, or commencement of the *fixed* portion of the canal; the handle being now gently lowered, the bulk of the head ascends out of the depression of the bulb, and favoured by the inclined plane, in which the head and bill are blended together, glides imperceptibly over the sill formed by the under edge of the triangular ligament. It moves on freely through the muscular portion till it reaches the prostate; here again, the guide, keeping close by the upper surface, overtops the eminence of the *verumontanum*; and depressing it] leads the head of the catheter gently over it. The bill then enters the bladder at the upper part of its orifice, making way for the head of the catheter as it had done throughout the whole of the passage. To resume; the chief and valuable peculiarity of this catheter consists in the fidelity with which its upper surface keeps to the upper surface of the urethra, while the bulk of the body, tapering upwards to the end of the bill, successively unfolds the depressions and climbs upon the eminences which it meets in its course along the inferior surface of the canal." 745.

Caustics and Cauterization the contributions of Mr. Ure, and Cephalæmatoma, that of Dr. Walshe, we pass over, not from any disregard of their respective merits, which are considerable, but from a wish to introduce a new subject of interest to the reader. Chondritis, a new denomination for the ulceration of cartilage, attests the progress of pathology in a branch that has been cultivated with the most gratifying success in this country; and chiefly by Sir B. Brodie. The recent experiments also of Mr. Liston, which are alluded to in the present article, afford strong confirmation of the views of the pathology of the ulceration of cartilage pro-

pounded in the Cyclopædia in the articles ARTICULATION and CHONDRITIS. This part of the subject was so fully treated under the former head by Mr. *Blackburn*, that Mr. *Spencer Wells*, the author of *Chondritis*, has merely added the confirmatory experiments of Mr. *Liston*, enlarging chiefly upon the more practical part of the subject. He however, adds an interesting observation in connexion with a disease as yet but little known, the puerperal form of arthritis. He says, "I had lately an opportunity of examining the body of a female who died about a fortnight after delivery, with symptoms which were ascribed to puerperal peritonitis. There were, however, no traces of abdominal disease. While examining the organs of the pelvis, our attention was directed to the left sacro-iliac synchondrosis by an appearance of bulging in that situation. We found that the cartilages covering the opposed surfaces of the ilium and sacrum had been completely absorbed, and the bones were consequently denuded. There was a large quantity of pus contained between and around the bones, and their abraded surface was covered by an exudation of recent lymph."

A very graphic description of the symptoms usually observed in the different classes of cases in which ulceration of cartilage is a prominent symptom, on the principal and primary disease, is given, and Mr. *Wells* proceeds to the diagnosis of the chronic cases from other diseases, and this part of the subject is so well treated, and of such practical importance, that we give the section on diagnosis entire. The diseases for which ulceration of cartilage may be mistaken are "inflammation of the synovial membrane; articular osteitis; scrophulous deposit in the articular extremities of the bones; the peculiar change of structure in synovial membrane described by Sir Benjamin Brodie; inflammation of the ligaments; external chronic abscess; inflammation and effusion into a bursal sac; and neuralgia."

"The diagnosis of ulceration of cartilage from inflammation of the synovial membrane is not difficult. In synovitis the pain is at first severe, but gradually diminishes; in ulceration, on the contrary, it is as a general rule at first slight, gradually increasing, and is aggravated in a far greater degree by any approximation of the articular extremities of the bones. In synovitis the swelling occurs simultaneously with, or very soon after the first attack of pain; in ulceration patients generally suffer very severe pain for weeks before any swelling is discoverable. In synovitis the form of the swelling is characteristic, from the bulging of the fluid at those parts of the joint unprotected by ligaments: in ulceration the swelling has the form of the healthy joint. In synovitis there is fluctuation throughout the disease: in ulceration there is no fluctuation till suppuration has taken place.

Caries of the head of the bones is marked by its slow progress, and the earlier occurrence of swelling. In the scrophulous cases there is very little pain, and far more swelling than in the case of disease of the cartilage; there are other marks of a scrophulous diathesis; the disease rarely occurs after puberty; the swelling does not take the form of the joint, but gives an appearance of enlargement of the head of the bone, so peculiar, that those who have observed it once, will not fail to recognize it. Suppuration, when it comes on, is not confined to a single collection of matter, but forms a succession of abscesses.

In the words of Sir Benjamin Brodie, the gelatinous degeneration of the synovial membrane is marked by 'the gradual progress of the enlargement and stiffness of the joint without pain, and the soft elastic swelling without fluctuation,

in the majority of cases, enable us to distinguish it readily from all the other morbid affections to which the joints are liable.*

Inflammation of ligaments is marked by the superficial character of the pain and its increase, not by all motions of the joint, but only by those which put the affected ligament on the stretch. This is characteristic. The absence of the other symptoms of ulceration of cartilage will also be remarked.

The circumscribed nature of the swelling which results from pural inflammation, its chronic character, the absence of pain, together with the occupation of the patient, will be sufficient to detect the nature of the disease in its early stages on the most cursory glance. But if suppuration have taken place, the sac have ulcerated, and pus has been discharged into the cellular tissue around the joint, a mistake may be made. In order to show that this error is not an imaginary one, I may state, that I knew of a limb which was condemned to amputation, though this was the sole disease. The diagnosis is, of course, most simple, especially if the disease occur in the knee or elbow, as is almost invariably the case. If the pus were within the joint, it would be internal to the patella or olecranon, whereas in the other case it is external. The other marks of disease of the cartilage are also wanting.

To those who have not seen much of articular diseases, it may appear unlikely that mere chronic inflammation of the soft parts around a joint, attended by suppuration, should be mistaken for serious disease of the joint itself. Such, however, is not unfrequently the case; and sometimes the error is very far from a gross one, though an attentive enquiry into the history and symptoms would suffice to establish the diagnosis. Thus, if we compare the symptoms with those of ulceration of cartilage, we find that evident tumefaction is one of the earliest signs of chronic inflammation of the soft parts; there is also more stiffness of the joint in the early stage: the pain is more confined in its situation; aggravated in a less degree by motion of the joint, but in a greater by superficial pressure over the seat of pain: it does not increase to the same severe extent, nor is it accompanied by the startlings of the limb: it is not so much relieved by rest. It will be remembered also that generally speaking it is some months before suppuration takes place from cartilaginous disease.

Sir Benjamin Brodie states that a large majority of the cases of suspected diseased joints which occur in fashionable practice are nothing more than neuralgic affections. The same assertion may be made with perfect accuracy in the case of certain unfortunate females, who frequently fall under the observation of the general practitioner. Their irregular habits of life; the mental distress many of them suffer; the state of nervous excitement common to the order: and its increase by means of ardent spirits in the large majority, induce a state of system which predisposes to diseases of the same character as those which result from more refined dissipation. The most severe pain is felt in the neighbourhood of some joint, and as this is for some time unaccompanied by other symptoms, it is more likely to be mistaken for ulceration of cartilage than any thing else. The diagnosis, however, is not difficult. The general appearance of the patient is that of an hysteric nervously excitable person—her mode of life is probably such as tends to exhaust or cause irregular distribution of nervous influence—probably there is neuralgia in other parts,—but even suppose, as is sometimes the case, the patient appears florid and healthy, even then the symptoms are characteristic. The pain at first comes on in paroxysms, the intermissions being perfect; it is evidently seated in the integuments; there is extreme tenderness on the slightest touch, while on continuing the pressure, considerable force may be exerted, and the pain be thus removed. The pain is not confined to the joint, and remains

* "Pathological and Surgical Observations on the Diseases of the Joints, p. 86."

for a considerable time without other evidence of local disease, and when swelling does come on, it is a diffused œdema. Frequently extensive motion of the joint can be borne without pain. These marks are quite sufficient to establish our diagnosis, but we must avoid the other extreme, and not be led by the presence of neuralgia to infer the absence of organic disease. As far as my personal observation has gone, I should be led to doubt the position that simple morbid irritability of any tissue can continue for any considerable length of time, without inducing increased arterial action." 770.

The morbid appearances in the different articulations are then succinctly described, and Mr. *Wells* proceeds to the subject of treatment, paying a well-merited tribute to the genius and industry of Sir Benjamin Brodie.

"The indications for the local treatment of a joint, the cartilages of which are ulcerated, are to prevent any increase of the morbid action from motion, shocks, or any other cause of irritation. Then regarding the ulcerative process as the result of chronic inflammatory action to lessen and subdue this by means of counter-irritation." 771.

With regard to the best means for keeping the joint in a state of absolute quietude, Mr. *Wells* dilates at some length upon the advantages of starched bandages and other immoveable apparatus, by means of which, he says, "we have an apparatus easily procured, readily applied, and as speedily removed: a gentle and uniform compression is exerted on the limb, the joint is kept immoveably fixed, and a patient who, under other circumstances, would be confined to a sick chamber, is enabled to walk in the open air with the assistance of crutches, and as the bandages are very light, and adapt themselves to every irregularity of the surface of the limb, the joint may be kept in any position that is desired."

Of the means employed to subdue the morbid action going on within the joint, directions are given for the application of leeches and cupping, and with regard to counter-irritation, we cannot do better than quote the valuable observations of Mr. *Wells*.

"In children, blisters kept open with some irritating dressing, afford much relief to the pain, and if the limb be kept quiet, this may be all that is necessary: but in adults, issues made with caustic potash, or the potassa cum calce, are far more serviceable. Sir Benjamin Brodie says they have a greater effect over ulceration of cartilage than any other disease of joints. They should be made as near the joint as is compatible with the safety of the synovial membrane. In some cases the first application is followed by an immediate cessation of the symptoms; in almost all, considerable relief is afforded, and if quiet be maintained for some weeks, the cure is often completed. Sir B. Brodie remarks, that the benefit derived from the issue does not appear to be in proportion to the quantity of pus discharged from its surface, and he thinks it is a decidedly better plan to keep the issue open by rubbing it two or three times a week with caustic potash, or sulphate of copper, than to employ beans. When these issues are applied, however, in combination with the ordinary methods of fixing the joint, their good effects are often destroyed by the involuntary motions of the limb. It is evident that the effects are likely to be far more beneficial when the joint is kept perfectly immoveable, and to effect this after applying the starched bandage, I have removed a piece about the size of half a crown, and applied the potassa cum calce to the skin at this spot. In this way perfect rest and the benefit of the issue were simultaneously and easily obtained.

The application of moxæ, and the formation of eschars by means of heated

irons have been much recommended, and were formerly in pretty general use in articular diseases, but they have of late years been superseded by caustic issues and setons. Most patients have a great horror of the actual cautery, and the difficulty of regulating the extent of their action is another strong objection to all the usual modes of cauterization. Instances are on record in which the synovial membrane was penetrated, and the most deplorable results followed. The evils, however, which arise from the abuse of a remedy, are not arguments against its proper use, and I believe that *moxæ*, when properly applied, are more manageable and efficacious than any other form of counter-irritation. The simplest and best with which I am acquainted, is made with paper which has been steeped in the liquor plumbi diacetatis, and afterwards dried. This is folded into a narrow strip, and rolled up after the manner of a bandage, till it gives a surface about the size of a sixpence. It is held on the point of skin where we wish to make the eschar by a pair of forceps or scissors, and a light applied. By blowing on it, it burns brightly like tinder without flame, and produces an eschar of sufficient extent which separates in a day or two. They may be applied in this way in conjunction with the starched bandages, by cutting out a small piece of the latter, and thus all the benefits of counter-irritation may be secured with perfect quietude of the limb. In Paris, agaric has been lately used to form *moxæ*, and it answers the purpose very well. Severinus and Rust are the principal advocates for the actual cautery. The latter author is very minute in his directions as to the mode and extent of its application, but it appears unnecessary to describe his practice, as all the benefits may be derived from the *moxæ* I have described, without any of the ill effects which have been observed to follow the hot iron." 773.

The treatment after suppuration has taken place is then discussed, together with the general treatment, but we have quoted so largely that we have only space for one remark strongly illustrative of the benefit of a knowledge of medicine to the surgeon, and another proof that, to be a good surgeon a man must be a good physician also.

"Before amputation be decided on, the lungs should be carefully examined for I have now seen three instances in which very extensive pulmonary disease existed in cases of diseased joints in scrofulous patients (and which, it was thought, had commenced in ulceration of cartilage,) the general symptoms of pulmonary disease being singularly latent. There was in fact nothing to induce a supposition of chest affection, while very extensive disease was evident on auscultation. Amputation in such cases would be useless torture, and the surgeon would have the credit of hastening his patient's death. I believe many of the cases we used to hear of, where disease was said to commence in the lungs as soon as the diseased joint is removed, are to be accounted for in this way: the lungs being diseased, but the symptoms rendered latent by the action going on in the joint. On the other hand, if the lungs be sound, and there is no hope of saving the joint, the sooner it is removed the better, as the local irritation, if long protracted will almost certainly be a cause of disease in some vital organ."

We consider this article on the whole just what a Cyclopædia article should be—a condensed account of previous knowledge on the subject, with interesting observations deduced from the experience of the writer. It has a striking contrast with the prosy Germaniform effusions of many of the aspirants for literary renown in the present day, and we would advise them to take a hint from this and other articles by the same writer, and, rejecting transcendental speculations, confine themselves to a simple exposition of what they know of their subject, and above all confine their remarks to the object of the work in which they appear.

We pass over several articles of merit to notice one on Club Foot by Mr. H. T. Chapman, in which the subject is handled with clearness and impartiality.

"The investigation and establishment," says Dr. Chapman, by Dr. Stromeyer of Hanover, of the correct ætiology of club-foot, his successful revival of the operation of Thilenius for its cure, and the practical bearing of the same principles on other defects and distortions of the frame, have given this subject a greater importance in the eyes of the profession, than almost any recent improvement in surgery, and have excited very general surprise that the treatment of these deformities should have been so long abandoned to the mere mechanic. A review of the opinions entertained by successive writers upon this branch of surgery, will show that scarcely any addition to our knowledge of the nature of the latter part of the last century (1784,) when Lorenz, a surgeon at Frankfort, divided the tendo achillis for the cure of a case of club-foot, under the direction of Thilenius." 781.

Stromeyer's immediate predecessors, particularly Scarpa and Delpech, had thrown much light upon the nature of these affections; but sufficient obscurity still remained to check the repetition by others of Delpech's not very successful experiments. An investigation into the influence of the respiratory system of nerves in producing disorder of certain muscles of the trunk, and thus occasioning curvature of the spine, led Dr. Stromeyer through the secondary to the primary sources of club-foot, exposed its real nature, and enabled him to lay down the true system of treating it with so much certainty and amplitude, that succeeding writers have done little more than confirm the principles, for the development of which we are indebted to him." 182.

This point is resumed in the discussion of the opinions of different physiologists, as to the cause of club-foot, in a quotation from Dr. Little.

"Rudolphi gave a more complete view of the origin than any of his predecessors, and one more consistent both with physiology and pathology. He concluded that congenital talipes and the analogous deformity of the hand (club-hand) arise from disordered influence of nerves on muscles in the fœtal state, by which their contraction is prematurely excited, and often in so vehement a manner, that the mother experiences pain from the convulsive motions; the limbs thus become distorted, and permanent deformity is often thereby occasioned. He observes, that the authors who have maintained the injurious influence of external and mechanical causes, such as pressure of the uterus through an improper position of the fœtus, appear to have been unaware, that these distortions are not unfrequently witnessed in embryos of three or four months. Rudolphi not only points out the influence exercised on the muscles of the extremities by powerful and general causes affecting the entire nervous system of the fœtus, but states that talipes often occurs in infants in other respects well-formed, from simple spasm." To Delpech, however, belongs the merit of having first worked out and practically applied the correct principle of treating these affections." 784.

Dr. Little's own opinions on the subject are moreover quoted *in extenso* the result being thus summed up by Mr. C.

"We may assume it, therefore, as fairly established, that genuine club-foot, in all its varieties, is produced by irregular action of certain muscles, which irregular action consists in a disturbance of the balance existing naturally between the antagonising systems, the flexors and extensors, the adductors, and abductors of the foot; that this disturbance may occur in two ways; one system of

muscles may be altogether deprived of nervous influence—may be paralysed, in short, and incapable of counter-balancing their antagonists in a state of *ordinary* action; or retaining their ordinary power, the same set of muscles may be overcome by their antagonists preternaturally excited—in a state of *extraordinary* or spasmodic action; and finally, that the occasional co-existence with congenital talipes of congenital club-hand, squinting, stammering, and spasmodic contractions throughout the muscular system and the occurrence of club-foot as a consequence of convulsions during dentition, of fever, measles, croup, &c. in infants, of apoplexy,—or even of hysteria, in adults,—all indicate an origin dependent upon imperfect development or lesion, upon changes either of structure or function in the cerebro-spinal system, with scarcely less certainty than that with which many instances of acquired club-foot may be traced to direct local injury or irritation of a particular nerve.” 786.

The article is well illustrated with woodcuts representing the distorted limbs, as well as the apparatus employed. The essential nature of the operation consists in a puncture of the skin followed by a subcutaneous division of the tendon. “By far the majority of operators,” says Mr. C. “have adopted the views and follow the practice of Stromeyer, the various improvements suggested having reference to the form of knife, the distance from the heel at which section should be performed, and the mode of dividing the tendon, whether from behind, forwards, or the reverse, whether by a transverse or oblique section. ‘There has indeed,’ as Dr. Little remarks, ‘been no improvement of the principles laid down by Delpech, the value of which was first satisfactorily demonstrated and practically illustrated and enforced by Stromeyer. But there has been a departure from these principles, which Stromeyer has justly designated a retrograde process.’”

“Whenever the section of other tendons besides the achilles tendon is required, it is better to divide the tendons of the muscles which produce the inversion or eversion first: and, having brought the foot in line with the leg, that is, having reduced the deformity to the state of talipes equinus, then to operate upon the tendo achillis.

Not unfrequently before the contraction can be fully overcome, a transverse section of the plantar fascia is called for.” 793.

We could have wished to dwell at some length on an article on Congelation, by Dr. A. Buchanan of Glassgow, but our space forbids this. It bears the impress of careful observation and a philosophic mind.

We however pass over this article on Congelation, as well as two or three others in this part, with the less regret, as we propose to return to them in a future number. Amongst these we may mention Condyloma by Henry James Johnson, and Cystitis by the Editor himself.

The next article we shall dwell on is one on Cornea by Mr. Wharton Jones. Mr. Jones thinks that the staphyloma corneæ is not, as commonly supposed, a protrusion of the cornea become opaque with the iris adhering to its posterior surface; but actually inodular tissue, which has been formed on the anterior surface of the iris, which has protruded in consequence of destruction of the cornea, partial or complete. The following extracts develop this view in detail.

“If in scrophulous, catarrhal, or catarrho-rheumatic ophthalmia, there be a penetrating ulcer of the cornea, the aqueous humour, as has been already men-

tioned, escapes, the iris falls forward into contact with the cornea, and a small part of it is perhaps prolapsed through the ulcerated opening. The progress of the ulceration being stopped by the yielding of the inflammation, the prolapsed portion of the iris, and the ulcerated part of the cornea are involved in one cicatrice. The opening in the cornea being thus closed, aqueous humour again collects, and the anterior chamber is restored; though somewhat diminished, in consequence of the partial adhesion between the iris and cornea (*cynechia anterior*). There is no prominent distention on the front of the eye in this case, because, as the inflammation subsides, the small protruded portion of iris shrinks and flattens; but if the destruction of the cornea has gone on farther, either by extension of ulceration from a continuance of the inflammation, or by the giving way of an abscess of the cornea, and considerably more of the iris has protruded, the prolapsed portion of the iris does not shrink when the inflammation begins to abate, as in the former case, but remains, and forms a projection at the part of the cornea implicated, which is generally the lower or lateral. This projection is at first merely a bag of the iris distended by the aqueous humour, and is called *staphyloma iridis*; but, by and by, its exposed surface becomes covered by an opaque firm tissue, of the nature of the *tissue of cicatrice*, and this tissue is incorporated at the base of the tumour with the sound cornea. The projection, the mode of origin of which I have just described, is a *partial staphyloma*; it is not a distention of the cornea itself, but a protruded portion of the iris covered by a *new tissue*, intended to supply the loss of substance which the cornea has sustained. The mode of origin of a *total staphyloma* is essentially the same, but differs only in degree. The whole or greater part of the cornea being destroyed, as occurs in gonorrhœal, purulent, and very often in variolous ophthalmia, as also that of new-born infants, the whole iris falls forward, the pupil becomes closed, and the aqueous humour, being thus allowed to accumulate in the posterior chamber, the iris is kept distended in the form of a tumour on the front of the eye. Its surface gradually gets covered with an opaque cicatrice-like tissue, or pseudo-cornea, which assumes a greater or less degree of thickness, and a total staphyloma is the result. Sometimes the central part only of the cornea is destroyed, a ring of the circumference still remaining; the staphylomatous projection has then the form of a small globe stuck on the front of a larger, but if disease has extended to the ciliary body, the whole front of the eye is prominent like a blunt cone." 844.

Founded on this particular view of the pathology of the disease, Mr. W. Jones's prophylactic treatment is peculiar and deserves mention.

"When an inflammation of the eye has run so disastrous a course, that the conditions for the formation of a total staphyloma are laid, any treatment which may be adopted can have for its object, not to save the eye as an organ of vision, but to prevent it from degenerating into a tumour, which not only causes great deformity, but is a source of considerable irritation even to the opposite eye, so much so, that the patient seeks for its removal by operation, sooner or later.

Prophylactic Treatment.—According to the account of the mode of formation of total staphyloma above given, it appears that the supply of aqueous humour in the still-existing posterior chamber, is what keeps up the distention of the iris, so that the pseudo-cornea which is moulded on its surface, presents the form of a round prominence on the front of the eye. If this be the case, the destruction of the source of the aqueous humour by breaking in upon the integrity of the posterior chamber, is the means which offers to prevent the development of the staphylomatous projection. The simplest plan of effecting this appearing to me to be the extraction of the lens, I put the operation into practice in the following case:

A man, about twenty-two years old, came to me labouring under the effects of severe purulent ophthalmia of both eyes. In the right eye, the cornea being

destroyed and the pupil closed, the iris protruded and was distended with aqueous humour. The left eye had also suffered very much; there was penetrating ulcer, prolapsus, iridis, and consequently considerable distortion and contraction of the pupil. Both eyes were still affected with the inflammation, and it was very doubtful whether the left eye could be prevented from getting worse, especially as it was evidently kept in a state of additional irritation from the presence of the staphyloma in the right. By an incision with a Beer's cataract knife through the protruding and distended iris, the lens was extracted. Severe re-action followed; less perhaps in consequence of the operation, than from the patient not being in a situation to take proper care of himself. The iris did not again become distended; on the contrary, the eye shrunk, and irritation being thus removed, the left eye progressively recovered, as far as the organic changes it had already undergone allowed, and further than there had been reason to hope for, as sufficient vision was preserved to enable the patient to resume his employment as a porter.

In those cases in which the eye is destroyed by purulent ophthalmia, whether in adults or new-born infants, by gonorrhœal ophthalmia, variolous ophthalmia, &c. and in which staphyloma does not result, but the cicatrice which forms in the place of the cornea is flat and the eyeball becomes atrophic, I suspect the lens has escaped on the giving way of the cornea.

[A fully formed total spherical staphyloma is a source of great deformity; its removal therefore is often sought for in order that an artificial eye may be worn. But what principally demands its removal, sooner or later, is the irritation which it keeps up, and which is apt to be communicated to the opposite eye." 845.

This article is illustrated by a well-executed plate, containing eight very expressive figures.

We now come to the article *Diplopia*, the last in Part VIII. As double vision with two eyes is merely a disturbance of the conditions on which single visions with two eyes depends, Mr. Jones commences his article with an enquiry into those conditions.

"An affection of the retina is the primary condition of a visual perception, but a visual perception has in itself nothing to do with the optical apparatus regulating the transmission of the light which produces the affection. The question, therefore, why certain affections of the two retinæ should yield but a single, and others a double visual perception, is strictly physiological. All the purely physical explanations which have been offered of binocular vision have obviously reference alone to conditions not at all connected with the visual perception, but, from the nature of the optical apparatus in front of the retinæ, necessary, in order that the images of objects may be simultaneously projected on particular parts of those nervous expansions.

The particular parts of the two retinæ on which the rays of light from the same point of an object simultaneously fall, when the eyes have their natural corresponding direction, are the point of either membrane corresponding to the axis of the eyeball, and the various points or papillæ of the temporal half of one, and of the nasal half of the other, similarly situated in reference to it. These points or papillæ, called *corresponding*, *identical*, or *analogous*, have naturally, it is said, such a sympathy, that the simultaneous affection of them is followed by a single visual perception only: whilst double vision results from simultaneous impressions on any other parts of the two retinæ.

Objections have been urged against this doctrine of corresponding points of the retinæ. Mr. Wheatstone's ingenious observations are quite decisive in exposing the exclusiveness of the doctrine as above stated, but that they do not overthrow it altogether, will I think be made to appear in the course of this article." 873.

From the enquiry which follows, Mr. Jones sums up thus—

“When from any cause there is a loss of the natural correspondence of the optic axes, the parts of the two retinæ on which the images of the same object are simultaneously projected are not corresponding parts; therefore, in accordance with what has been above said, the sensations arising from the two impressions are separately perceived by the mind, and the consequence is double vision. Double vision with two eyes is thus in itself not a disease, but from the organization of the eyes, a natural result of derangement of those conditions on which single vision depends. The proximate cause of the derangement alluded to is most frequently irregular or impeded action of the muscles of the eyeball; but it may be an organic contraction of parts, some morbid production in the orbit, or the like, displacing the eyeball.

The two images in diplopia, are often distinguished into true and false—or real and imaginary; but such a distinction is improper, as the one image, although it may be less distinct, is not more false or imaginary than the other, both being equally the result of sensation produced by the impression of rays of light on the retinæ. That one of the two images is more distinct than the other, is owing to the circumstances that in one eye the impression is made on the central part of the retina, which is more sensible than any other; while in the other eye, the impression falls on a part of the retina, which according to the degree of deviation, is more or less distant from the centre. The adjustment of that eye, moreover, which receives the impression on the centre of its retina, corresponds more with the distance of the object looked at; the relative position of the two images depends upon the direction of the deviation of the eyes. As sometimes the deviation of the axes of the eyes exists only when the person looks in particular directions, and at certain distances, so does the double vision in such cases take place only when the patient looks in those directions, and at those distances.

The deviation of the optic axes giving rise to double vision may exist in various degrees, from an evident squint to a scarcely perceptible cast. It is in this latter case that the double vision is most marked, as the two retinal sensations are about equal in force, in consequence of the images of the object being projected on or near the centres of the retinæ, and on parts of it not far from being corresponding. When the deviation of the optic axes is still slighter, the two retinal images contend as it were to attract the mind's attention, and the object appears as if oscillating with velocity before the eyes, the consequence of which is confusion of perception when the two eyes are employed, and sometimes vertigo. As the person in this state can see things distinctly only when he closes one eye, the affection has been called *Monoblepsis*.

The name *diplopia* is usually confined to those cases in which the misdirection of the eye is so slight as scarcely to attract notice, but in which, for the reason above explained, the double vision is strongly experienced by the patient.

The irregular or impeded action of the muscles of the eyeball, giving rise to diplopia, may be owing to an affection of the muscles themselves or of their nerves, or it may be owing to disease or injury of the brain, or to drunkenness or fear, or to derangement of the *primæ viæ*, &c. But this is not the place to discuss the various primary affections on which the derangement of the muscles of the eye depends. It is enough to explain the nature of diplopia with two eyes, in order that, as a symptom in any particular disease, it may be appreciated at its due value.” 178.

The article concludes with a practical remark of so much interest and value as to be well worth quoting. “In most presbyopic persons Dr. Arnott has ascertained double vision in either eye singly to exist in a slight degree, and he has discovered that it may be entirely obviated by having the glasses of the spectacles so placed, that the axes of the eyes

may fall upon them more or less obliquely. Vision is at the same time rendered very much more distinct."

The Cycloædia of Surgery conducted to its conclusion in the spirits and style of the present volume, cannot fail of the object which it seems to aim at above all others, and which is, to form a work of reference in which the present state of surgery shall be fully and clearly expounded. The earnestness of its editor to carry out this object will moreover obtain for him pardon for past interruptions, if he continue to pursue an onward course with any tolerable degree of steadiness. This first volume stamps a high character on the work, and regularity of issue of the future parts, is all that is required to secure for it extensive patronage. In closing our remarks for the present, we should not omit to state, that our estimate of the Cyclopædia of Surgery is fully confirmed by the critiques of the Continental Reviewers.

A NEW SYNOPSIS, OR THE NATURAL ORDER OF DISEASES:—WITH A NEW PATHOLOGY OF FEVER AND INFLAMMATION. By Robert Stevens, M.R.C.S. London: Highley, 1841.

THE successive failures of so many able writers, from Sauvages to Good inclusive, in constructing a satisfactory classification of diseases, prove that it is an undertaking of no ordinary difficulty. What practitioner attributes any portion of the success he may have acquired in the investigation or treatment of disease to aid derived from nosological systems? Nay, is he not assured that had he adhered rigidly to their artificial arrangements, he would have frequently been betrayed into many errors, impossible to an enlightened, although, by them, unaided observation? Teachers of medicine are becoming more and more persuaded of this, and hence some of the ablest professors have reverted to the topographical mode of demonstrating diseases. Objectionable as this plan may be, as involving much repetition, and neglecting general principles, it is probably, in the present state of our knowledge, the best; for, if it does not supply all the information required on commencing practice, it possesses at least the negative advantage of leaving the mind unencumbered by a mass of useless verbiage, simulating knowledge, and obstructive rather than available to future self-improvement. It is a sad thing for the young practitioner to find that he cannot treat his patients satisfactorily until he has unlearned what he has been at much pains to acquire.

We do not say that nosologies in themselves are useless or hurtful: could a truly scientific and natural one be constructed, its utility in aiding the diagnosis, description, and treatment of disease would be unquestionable; but we fear the obstacles which oppose themselves to its construction are well nigh insurmountable. However the successes which have attended the efforts of naturalists, may have excited the hopes and ex-

ertions of physicians, yet they have found that diseases are not to be arranged with the same ease as the objects of zoological or botanical research. The structure, history, &c. of these last are well known, their resemblances and differences easily ascertained, and hence their arrangement in systems according to their natural affinities practicable. How is this possible with diseases, whose characters are so variable, or seem to us to be so from our ignorance of their true nature, and whose affinities are so ill-known, that in every nosological system we find some such incongruities as the placing together "the itch and broken bones" in the system of Cullen, or the tooth-ache and prolapsus ani in that of his critic Mason Good. However satisfactory it would be to be able to classify diseases according to their pathology, its impossibility is at once seen, when we consider of how few diseases the true pathology is known; and we should imagine there can be no question that it is better to practise without a nosology at all, than with one founded upon erroneous pathology. Still the attempt to improve this state of things must not be given up in despair, and we are therefore very glad to see another work appear addressed to this object, although we regret to add that it does not seem to us to have attained it.

Mr. Steven's natural system would seem to be but a modification and extension of that of Dr. Brown, speaking of which, he thus expresses himself:—

"But Dr. Brown attempted a natural arrangement of diseases, dividing them into two classes: namely, diseases of excitement, and diseases of depression. Yet, from the great defects in the pathological knowledge of the day, and other causes, his arrangement was very imperfect; many diseases being palpably out of place. The plan, therefore, appeared to be utopian and was abandoned; but it contributed not a little to the overthrow of the Brunonian doctrines, that the principles upon which the theory itself depended, were imprudently strained. Excitability was confounded with increased vitality, whereas it is simply an undue expenditure only, an extravagance using up, as it were, of what was called the sensorial or vital power. Hence, sthenic affections, such as inflammation, are diseases of excitement only, not of increased vitality; a very important distinction, and one which most satisfactorily accounts for the subsequent depression. But the asthenic diseases are directly dependent upon diminished or defective power; and, therefore, the only defect in this system seems to be, that the sthenic and asthenic diseases are not truly and perfectly contrasted; nevertheless they are sufficiently so, to indicate in a nosological table, with the additional information conveyed by the collateral arrangements, not only much of the pathology of every disease, but also much of the principles of treatment." 4.

Following out this idea, the author considers that all diseases may be naturally arranged into the two classes of sthenic and asthenic; each class being composed of nine orders.

CLASS 1.—STHENICÆ.

- Order 1, Febres
- 2, Phlegmasiæ
- 3, Eruptiones
- 4, Impetigines
- 5, Tumores
- 6, Hæmorrhagiæ
- 7, Spasmi

CLASS 2.—ASTHENICÆ.

- Order 1, Marcores
- 2, Adynamix
- 3, Cachexiæ
- 4, Parasitiæ
- 5, Ectopiæ
- 6, Profluvix
- 7, Dyscinesiæ

8, Dysorexiæ
9, Vesaniæ

8, Dysæthesiæ
9, Dementiæ

Mr. Stevens considers that each order in the sthenic column is the natural contrast to the order placed opposite it in the asthenic column. There can be no question that diseases manifest either a sthenic or asthenic character, but we can by no means agree that many of these arranged under the above orders are *essentially* sthenic or asthenic; although they may be so in particular individuals, or in different stages of their progress. Why should hysteria, singultus or stricture, of the order spasmi, be considered essentially sthenic,—and delirium tremens, dyspepsia, jaundice, and rheumatism, essentially asthenic? If this were indeed the case, the treatment of disease, by means of a nosological table, would be a far simpler matter than we find it to be without one: but the symptoms, the treatment required, and the morbid anatomy in the various diseases, alike prevent our believing it. We think then the author's system is fanciful, and like all others that we have ever seen, it is vitiated by the grouping together of many diseases having no natural affinity, and the separation of others which should be approximated. We have only space to glance at some of the genera.

The first order *Febres* does not contain Typhus, which is removed to among the *Adynamix*. *Phlegmasiæ* contains Phthisis, and of course the various *ites*; but we do not see why Apostema (Abscess) should be elevated into the rank of a genus, when it is only one of the results of inflammation. Erythema and Erysipelas have been properly removed from among the *Eruptiones* to this order, although the same observation will not apply to Lepra, which is placed among the *impetigines*. Of the *Impetigines*; the author says:—"this order contains diseases depending upon specific poisons, which being once introduced into the system, continue to infect and propagate;—that is they do not run out their course in a limited time, like small-pox, leaving the system free, but, on the other hand, overcome the constitutional restorative powers, and yield to nothing but art." He enumerates three genera—Syphilis, Lepra, Elephantiasis, a number obviously too small or too great. Among the *Hæmorrhages* we find Sanguineous Apoplexy placed. The order *Spasmi* ("Abnormal muscular action: generally from the involuntary reflex action of the nerves, from irritation or injury of their peripheral extremities"), contains fifteen genera, among which are Wry-neck, Tetanus, Chorea, Hysteria, Epilepsy, Pertussis, Asthma, Colic, and Stricture. *Dysorexiæ* or depraved appetites, contains Bulimia, Polydipsia, Pica, and Salacitas: and *Vesaniæ*, Hallucinatio, Iracundia and Mania.

In the second class we have as the contrast of *Febres*, the *Maro res*, which contains but one genus, Marasmus. The *Adynamix* or "Physiological contrast of the *Phlegmasiæ*," contains twenty-one genera, among which we find Apoplexia *Atonica*, Paralysis, Angina Pectoris, Irritabilitas Nervosa, Typhus, Cholera Asphyxia, Pestis, Dyspepsia, Jaundice, Chlorosis, Gangrene, and Necrosis. We are at a loss to perceive the nature of the natural contrast between the *Cachexiæ* and *Eruptiones* (as indeed between several others); this order contains among other genera, Rheumatism, Gout, Calculus, Rickets, the Dropsies, Cataract, Scrofula, Cancer,

Parasitica, contains the Itch, Hydatids, Worms, &c. *Ectopia*, contrasted with Tumors, contains Aneurism, Varix, Piles, Nævus, Intus-susception and Hernia. *Profluvia*, contrasted with active hæmorrhages, contains Epiphora, Gleet, Diarrhœa, Leucorrhœa, Menorrhagia, &c. *Dyscynesia* ("inefficient muscular action, being neither spasm nor paralysis; but *mostly* a want of harmony in the action of the component muscles of an organ from nervous defect") contains Stammering, Dumbness, Aphonia, Dysphagia, and Angina Pectoris. *Dysæthesia* contains Amaurosis, Dysopia, Impaired Smell and Taste, Deafness, Parapsis and Constipation. *Dementia* contains Nostalgia, Fatuitas, Amentia. To these are added an Appendix of *Symptomatic Affections*, containing Coma, Cephalalgia, Delirium, Emphysema, Hypochondriasis and Nightmare.

It will be seen, that from a nosology thus constructed, little or no assistance is to be derived by practitioner or student. This is no reflection upon its author; he has had to cope with difficulties, which, in the present state of our knowledge are not yet to be subdued, while in some respects his system manifests an improvement upon that of his predecessors. Of the pathology of *fever*, he thus speaks:—

"In fever the ganglial nervous power is augmented, as well as, not only nutrition, but the counterpart absorption and redigestion or decomposition of the old material; and as there is deficient appetite, the system is thus left to prey upon itself, the excitement called fever soon merging by exhaustion into a typhoid form. So fever exists not only where the vital actions are excited by the augmented circulation of good arterial blood, but also where the system has preyed upon itself, even when prostration and debility are induced. Hence the typhoid form, and though no definition can well explain both these opposite modifications of fever, yet their separate existence as different states of the same morbid action is perfectly intelligible. For when febrile action is continued, not only is there a quicker expending of the nutritious particles of the blood, but also the counterpart absorption of old material is equally augmented, the nutritious materials being so quickly worked and expended, that shortly there is no longer the proper stimulus for the nervous centres, namely, good arterial blood, and therefore the vitality is depressed, and the patient in a state of low typhus, the circulating fluids being attenuated and the general fibre relaxed, purpura supervening and a tendency to decomposition. Whilst at the commencement of fever, when there was a quick and augmented circulation of good arterial blood going on, the patient was in a state of restless and delirious excitement. Thus, both these opposite states, result from the same morbid action, and where the strong form of fever is allowed to run very high, it soon merges by exhaustion into the low typhoid form. But art ingeniously directed, can forestall this, and ensure the safety of the patient.

"It is plain that fever manifests itself as an augmentation of the ganglial nervous supply, which governs the circulation and nutrition; also it is equally plain that the induction of faintness averts nutrition in toto. So also that medicines which produce nausea can withhold or diminish the ganglio-nervous supply, and thus afford a strong hold upon fever, in its stages of excitement; and these are the very medicines which also relieve the chief external characteristic of fever, namely, dryness of the skin, therefore fever may be cut short or reduced by artificial means, before defibrinization and exhaustion can take place." 28.

Respecting the pathology of *inflammation*, the following are some of his observations.

"It is the state of obstruction in the capillary vessels which causes the effusion of lymph; and, therefore, also the first process of inflammation. Obstruction in the course of the capillary circulation may occur in the following modes: 1st. If any abnormal deposit take place, such as tubercular matter, when it has considerably accumulated, it may press laterally on the capillary vessels, and obstruct them. If this be the case, it causes the effusion of lymph and inflammation, as will be explained presently. 2. If any portion of the texture of the body lose its vitality, it is an obstruction to the direct course of the vessels: a line of demarcation is formed, and there the effusion of lymph occurs. 3. If continued external pressure be made upon any part of the surface of the body, obstruction of the superficial vessels is the consequence." 39.

For the observations respecting the suppurative and ulcerative processes of inflammation, we have not room; nor do we perceive that they contain any novelty.

The definitions of the various diseases are concise and exact, and the principles of their treatment usually judicious. An appendix upon the relations of the medical profession with the public, proves the author to be an upright practitioner, zealous for the suppression of professional quackery and humbug: but we do not see that this is to be brought about, by such a registration of deaths as would show in which medical man's practice these preponderated, or by a more free criticism of each other's practice in unfavourable cases than is at present permitted by professional etiquette. Agreeing with the author, as to the almost hopelessness of the task of endeavouring to instruct the ignorant public in the better appreciation of who are really conscientious and able practitioners, still we think this would be the only means of improving the state of things he deploras.

PERISCOPE; OR, CIRCUMSPECTIVE REVIEW.

—
"Ore trahit quodcunque potest, atque addit acervo."
—

OBSERVATIONS ON THE MANAGEMENT OF MADHOUSES, PART THE SECOND, CONTAINING AN ACCOUNT OF SUSANNAH ROGINSON, &c. &c. By Caleb Crowther, M. D. Former Senior Physician to the West-Riding Pauper Lunatic Asylum. Simpkin and Marshall. London, 1841.

Dr. Crowther must be a perfect bugbear to madhouse keepers. He does not spare them. From the larceny of a pig or a pot of beer up to chaining, torturing, or seduction, he haunts them through all their wickedness. He writes always in a passion. We would not for the world pick a quarrel with Dr. Crowther. His very name is severe.

We cannot go through Dr. Crowther's case or his strictures, and must content ourselves with pointing out one or two of the abuses he denounces, or things he recommends. Among the desideranda in Lunatic Asyla, is a well regulated series and system of *manuscript books containing the history and treatment of the patients.*

Dr. Crowther Observes:—"Making reports in writing at every visit adds greatly to the daily labour of the attending physician, on which account it has been too much neglected. The governors of madhouses ought, therefore, to afford every facility to physicians who have taken the trouble to make correct written reports for the purpose of enabling them to form summaries of their medical practice. The object of these remarks is to show that the West-Riding Visiting Justices have made an order calculated virtually to prevent every physician from making any use of his own reports. This order prevents the books containing the reports, from being removed from the asylum, and no medical man in actual practice can afford to spend so much time in an asylum, as will be required to draw up a correct Report. In order to encourage the young physician to make his Reports uniformly in writing, I beg leave to suggest to him, that independent of the advantage that will accrue to medical science, he will derive personal advantage from such Reports. They will preserve him from unjust attacks from inferior officers, and from incorrect judgment from uninformed Visiting Justices.

Some time after I resigned the situation of Physician to the West-Riding Pauper Lunatic Asylum, I applied to one of the Visiting Justices for a loan of the books containing the Reports of the cases of the patients treated by myself. I received a written order for this purpose, which the Director refused to comply with. I have since heard, that at a subsequent meeting of the Visiting Justices, an order was made to prevent the books from being removed from the Asylum. The application for this order, I hear, was made by the Director. The reasons given for this application were, that the books were liable to be injured, or lost, or wanted for reference, when allowed to be removed from the Asylum. Had the Visiting Justices deigned to hear both sides of the question, they must have arrived at a very different conclusion. Their order is calculated to frustrate the object for which the books were provided. The purpose which I had in view when I made application for the books, was to make a Report of some cases occurring in my medical practice, during the eight years I attended the Asylum as one of the physicians. To the most ignorant it must be obvious that no man can be so capable of drawing up such a Report as the individual who treated the patients.

The results of hospital practice may, it is true, be given by another; but no one, except the medical practitioner himself, can furnish the reasons which led to a certain practice, nor the causes which favoured its success, or contributed to its failure. No physician in actual practice can afford to spend so much time in an Asylum as will be necessary to obtain the abstract and details requisite for a medical report, but there are many half-hours, or hours which at home he may be able to devote to this work. Instead, therefore, of throwing obstacles in the way, it is obviously the duty of the Visiting Justice to promote the correct execution of such a work, by affording every possible facility to the physician."

Of the Causes which prevent the ready detection of Abuses in Madhouses.

First and foremost of these, Dr. Crowther justly places irresponsibility to public investigation and public opinion. This particularly applies to the visiting justices of an asylum.

"Fearful of losing power, and jealous of each other, they have never yet formed a sub-committee, to whom intricate and important business should be submitted previous to a general meeting, as well as all casual business occurring in the intervals between the regular meetings.

The consequence is, that the Director may secure to himself almost the entire controul of an Asylum. The late Director Ellis told me, that if he wanted to obtain any particular object, he applied to one of the Visiting Justices, and persuaded him to sign a written order for it.

In whatever manner one Visiting Justice may have decided, it is, I believe, contrary to etiquette for the body of them to reverse the decision. In this way, not only in casual emergencies, but in daily occurrences, the Director, by applying not to one of the wisest among his masters, but to one who is fondest of power, to one whose ear he has gained, to one with whom he has lived on terms of convivial intimacy, may obtain whatever he wishes for, and secure for himself an ardent defender, however improper may have been the application. Instead of being impartial judges, although in their general conduct in life honest and honourable men, they act as advocates for their friends, and by law no appeal is allowed to the Quarter Sessions or Assizes, however partial or unjust may have been their decision. Self-election serves to perpetuate the evils which clannism among the Justices, and personal intimacy between the governors and governed, have introduced. The appointment of Visiting Justices by rotation, as is in Middlesex, is infinitely preferable to self-election.

To convict a public officer in a madhouse, (who has gained the ear of the Governors), of the most palpable crimes, is as difficult as in an unreformed parliament it used to be to convict a member of bribery. Formerly the Justices decided in cases of dispute between the different officers, without confronting the accuser and the accused.

Many other causes contribute to screen a favored public officer who has done wrong; besides his being protected and defended by his personal friends among the Justices. The investigation or trial takes place in private, instead of being in open court.

There is no public prosecutor, unconnected with and independent of the Asylum, employed to sift out and bring forward the evidence. No previous arrangement is made calculated to elicit truth. The witnesses, being permitted to remain in the Asylum for days before the investigation takes place, are liable to be tampered with, brought forward, or suppressed, as may best suit the interest of the party to be tried.

The Clerk to the Visiting Justices, the person usually employed, besides being dependent upon and subservient to them, is, perhaps, the most intimate friend of the accused. Admitting him to be one of the most upright and honourable among his class, it is impossible for him, under such circumstances, to exercise an unbiassed judgment. Instead of being of counsel against the accused, he

insensibly becomes the advocate of his friend. This he may be safely, because there is no one opposed to him to cross-examine the witnesses.

Should any witness of an unblemished character dare to give evidence, criminating a favoured delinquent, he is liable to be calumniated and abused, brow-beaten, bewildered, and dismissed with loss of character; there being no advocate to support him, or to prevent improper and harassing questions being put to him. Under such circumstances, there may be the semblance of a fair trial, when all the most important part of the evidence has been concealed.

Supposing that the strangest evidence be adduced, of the Rules and Regulations having been violated; or that it be proved that persons have, at the County expense, been boarded and lodged at the Asylum for many months together; or even that presents have been accepted from individuals who have received such favours,—what would be the result?

The affair would be overlooked—would be passed over without notice—if a favoured officer were concerned in it; but if a farmer, gardener, keeper, or domestic servant, were to do such things, he or they would be immediately dismissed with loss of character. Thus discontent and dissatisfaction are generated in the Asylum from a persuasion that the laws are not equally administered. To render an investigation efficient, a regular order or method of examination ought to be adopted. The business ought to be commenced by examining the chief officers belonging to the Institution; afterwards let the inferior officers and domestic servants be examined in due order. Being uncertain with regard to the evidence which may be subsequently given, the superior officers will be more cautious with respect to their own; they cannot adjust their own to the case in hand. The greater the guilt, the greater will be the effort to conceal it. Unprincipled minds have much greater fear of being detected, than of committing a crime. Notwithstanding the efforts used by those who have abused their trust in Madhouses, in order to impose secrecy on servants, and to impeach their veracity when they cannot silence them, truth will occasionally ooze out. The attempt to prevent public servants from giving information respecting occurrences and events which they have witnessed, contrary to good morals, and contrary to the rules and regulations adopted in well-regulated hospitals, is itself *prima facie* evidence of guilt. It is to prevent combinations of this kind, that daily visitors become absolutely necessary, and have been generally appointed in all our best-conducted hospitals."

Daily Visitors.—By the idle, the inhumane, and the negligent public officers in madhouses, no set of people are so much detested as daily visitors. On the contrary;—to the diligent, the upright, and benevolent, occupying such situations, they are highly acceptable; they co-operate in preventing neglect, fraud and peculation, and in this manner diminish the labour and responsibility of the Hospital Superintendents;—they contribute to the comfort and cure of the patients, to the protection of good officers and servants, and to the detection of bad ones;—they promote impartiality in the administration of justice, by furnishing correct statements respecting matters in dispute;—they prevent waste and peculation;—they detect licentiousness and crime.

The duties of the Daily Visitor are to watch, observe, and report upon the conduct of all the individuals, whether officers, servants or patients, attending or inhabiting a public hospital. It forms no part of their duty to give orders or to interfere with the occupation of any one. They report what they see amiss, or what they see worthy of praise, in a book appropriated to that purpose; and when required, they attend the Governors, in order to explain and substantiate their reports. The Daily Visitor is admitted at all hours, from the time when the patient rises, until he goes to bed. To insure cleanliness, he visits every part of the hospital, he examines every nook and corner;—he examines all the provisions in the house, cooked and uncooked, and sees that the patients get the proper quantity allotted to them of good and wholesome food;—he examines,

also, the furniture and clothes;—he notices the violations of the rules and regulations;—he notices the neglect, absence, or misconduct of every officer or servant;—he uses his best endeavours to prevent waste and peculation; he inquires whether any person, who is not a patient or a pauper lunatic, resides in the house.

“If I be asked, how are we to obtain male and female Visitors able and willing to perform such duties, I beg leave to refer to the former part of this work, page 90, for a satisfactory answer. Some of my readers may be startled at the suggestion that Daily Visitors can in any way contribute to the cure of the insane. The paradox, however, is not less true than strange. The deranged generally imagine that they have been confined without just cause, and consider every person hostile to them who opposes their liberation. They fancy that the Physician, the Director, the Matron, and the Nurse have an interest in what they say and do, unconnected with the welfare of the patient. Even in early stages of the disease, it affords relief and comfort to the lunatic to find, that he has a friend and guardian who will listen to his complaints, and encourage him with the hope of speedy recovery. It often happens that these complaints regarding their food, their restraint, and the conduct of the officers and keepers, are completely groundless. It is impossible to trouble the Visiting Justices with matters of this kind. For this purpose an intermediate set of officers is requisite, i. e. Daily Visitors. If then, when the first dawn of reason, the first lucid interval occurs, the patient discovers that he is frequently visited by a friend, a protector, who has no interest except in promoting his welfare, and no motive for attending the Asylum except for his protection, one great source of mental irritation dies within him, and hope and confidence occupy the place of despair, and he now rapidly recovers.

Daily Visitors are of great use in protecting and encouraging good officers and servants, and in exposing bad ones. Where one person only in a madhouse has the ear of the Visiting Justices, he may tyrannize over and insult all the rest with impunity. It is true that a servant discharged by the Director has the power of appealing to the Visiting Justices, but at present his chance of succeeding against the influence of the Director will be very small indeed, whatever be the merit of the case. With the assistance, however, of the Daily Visitor, the position of the servant is materially changed. The Daily Visitor becomes acquainted with the general character and conduct of every person in the house. If a charge be brought against a servant, at variance with his general conduct, he examines the case narrowly, and will generally succeed in developing its merits. Under such circumstances it will not be very easy to illtreat an honest servant, or to promote and patronize a bad one. Supposing that all the servants should receive orders to tell no tales, which in plain English means that they shall tell no unpleasant truths, where there are no Visitors they know very well that if they disobey or be suspected of disobeying, they will not be discharged perhaps for telling an unpleasant truth, but they will be so harassed and provoked in various ways, that their situation will not be any longer tenable: and this may occur when they have acted very meritoriously in discovering peculation or crime.

Dr. Crowther's Observations on Haslar Hospital, St. Luke's, Bethlem, and Hanwell.

Dr. C. visited these in August, 1840.

Haslar Hospital, a noble building, worthy of the first maritime power in the world, not being wanted for the sick and wounded in the navy, during the time of peace, has been fitted up in a temporary way for lunatics, both officers and men belonging to the navy. At the time of his visit, this Hospital contained about 150 patients of this description, three of whom were placed under restraint. They do not here possess the same conveniences for restraint which are to be met with in other Madhouses; they have no separate cells for the noisy and violent patients. Manacles and fetters of iron are still in use here, which might advantageously be changed for leather straps, gloves, and hobbles.

St. Luke's Hospital is a very handsome structure, the galleries are lofty and spacious, and the sleeping rooms large and comfortable; the day rooms, from the position of the windows, appeared to me to be dull and dreary. The greatest part of the patients being unoccupied, were sleepy and listless. The position of the building is bad, being in the midst of a noisy population, which is often injurious to the patients. The kitchens and offices are very defective; the airing courts are small in extent, and few in number. Could the site of this Hospital be sold to advantage, it would be desirable to remove this institution to a country situation, where it might have the advantage of larger airing courts, of a garden and a farm.

Bethlem Hospital, as far as regards structure, may be denominated the Palace of Lunatics. Although situated in the midst of a dense population, it has no annoyance from without, like *St. Luke's*. It has a greater quantity of ground belonging to it, and is completely detached from other buildings. Its airing courts are spacious, and well supplied with convenient seats, and shelter from the sun and rain; but not sufficiently numerous to allow a proper classification of the patients. The galleries are magnificent; they are long, broad and lofty, and well lighted, and in some degree compensate for the want of more airing courts. In some parts of the building they were removing the only disagreeable object in these galleries, the large iron bars, and substituting for them iron window frames. The large and lofty sleeping rooms contribute, I have no doubt considerably to the recovery of the patients. The kitchens and offices are ample and convenient. It is impossible for any building, containing the same number of human beings, to be more cleanly than *Bethlem Hospital* was on the day when I accidentally visited it. I did not visit every cell, but there was no apparent concealment or reserve, great facility was afforded me by the officers for examining every part of it. The water-closets and places where the patients were washed, were particularly clean and inoffensive.

The general aspect of the patients was more healthy than might be expected in so low a situation, and where such a large number are congregated, I was told that the Hospital was generally healthy, and not subject to fever and epidemics. This observation is particularly worthy of notice, because *Bethlem Hospital* is situated near the river, very low, and in the midst of a dense population. If this situation can be made healthy, any other place in the kingdom, where there is plenty of water, and sufficient fall to admit of proper drainage, may be made so. Indeed, I am convinced that a low situation, with plenty of water and good drainage, is preferable for a prison or hospital to high ground not well supplied with water.

Although a much greater number of patients is occupied in some way or other at *Bethlem* than at *Haslar Hospital* or *St. Luke's*, still there is a striking contrast between the great listlessness of many of the patients at *Bethlem*, and the happy activity of those at *Hanwell*. The establishment of keepers and nurses at *Bethlem* appear to be well selected: they are active and efficient, but inferior to those at *Hanwell*. The governors and officers at *Bethlem Hospital* pride themselves upon what has been the greatest bane to that institution, i. e. upon their exemption from public control and visitation. Formerly it was very difficult to obtain permission to visit this place: now there is no obstacle to prevent visitation. From all that I saw in a cursory visit of two hours, I was induced to believe that there is now nothing which requires concealment; nothing of which they need be ashamed. The neglect and disorder in which *Bethlem Hospital* was found at the time of the Parliamentary investigation, had its origin no doubt in the privacy which had been maintained there; and for the improvements which have taken place, we are indebted to the frequent exposure by the public press of the abuses which have formerly existed there.

Assuming that the site of *Bethlem Hospital* is healthy, there ought to be a greater number of cures effected there in proportion to the admissions than in any other asylum, excepting those only confined to the reception of recent cases.

The star of Bethlem has long been under a cloud ; it has now, however, again become brilliant, and is likely to maintain a conspicuous position among its competitors. At the anniversary festival of the Bridewell and Bethlem Hospitals, held in July, 1840, Sir Peter Laurie, the president, stated, that during the year, 185 had been cured and restored to society. This is highly creditable to the institution, making the number cured amount to 61.66 per cent. This could not have been effected without great attention and exertion on the part of the medical officers. Emulation and competition are now, I trust, likely to become the order of the day throughout all our public metropolitan Madhouses. As far as I am capable of forming a judgment from our statistical details relating to insanity, I do not think it probable that the number of cures under the most favourable circumstances, can ever exceed 70 per cent. It is therefore highly honourable to the officers belonging to the Bethlem Hospital to have made such a near approach to that number. If it be possible to exceed it, it must be in districts where excess is unknown, and civilization much farther advanced than it is at present.

At *St. Luke's*, the number of cures for the year 1839, was, among the men, 46.5, among the women, 67.7, making the average of both 58.1 per cent. This account is taken from the list of patients whose treatment has been completed. The same kind of cases are admitted into both hospitals ; whether or not the cures are estimated in the same way the high-minded irresponsible Governors at Bethlem do not deign to tell us ; they publish no annual reports. Considering the disadvantages under which *St. Luke's* labours, the number of cures effected is highly honourable to that Institution. It is remarkable that among the females the amount of cures has been within a fraction of 70 per cent, the number fixed upon by Dr. Crowther as the probable maximum of cures.

Hanwell.—"With every thing which I saw at Hanwell I was highly gratified. The situation is elevated, appropriate, and beautiful ; the quantity of ground ample, and well laid out ; the buildings lofty, spacious, and convenient ; the airing courts numerous and cheerful, with suitable conveniences for rest and shelter. The kitchen is the finest thing of the kind which I ever saw. It is very large, lofty, and well lighted, and replete with almost every conceivable convenience. The gardens are extensive and well cultivated. The workshops are large and well suited for the different purposes for which they have been erected. There are not perhaps so many square feet of air at Hanwell appropriated to each patient as at Bethlem, but the superiority of the situation will no doubt more than compensate for the difference. There is besides, what is of primary importance in all such institutions, an inexhaustible supply of pure water, unaccompanied with stagnant pools or a humid atmosphere.

The keepers and nurses are of a superior order to what I have seen elsewhere. They excel in stature and muscular strength, in personal neatness and dress, in language and manners.

I accompanied Drs. Conolly and Begley in their ordinary morning visit round the Asylum. The patients were very neat and clean, and a great number of them being engaged in work of various kinds, gave an appearance of cheerfulness and animation to the scene, which we shall look for in vain in situations where they are furnished with no employment. They appeared to be less rude and better educated than the pauper lunatics in the north. Their general behaviour towards the Physicians was civil and respectful ; they did not seem to stand in awe of them, but received them with evident pleasure and satisfaction as friends coming to administer relief and comfort to them.

Whether the entire abolition of all instruments of restraint will prove advantageous and practicable, I have not had sufficient experience to determine ; but of this I am certain, that the public is greatly indebted to Dr. Conolly for making the experiment on a large scale."

Dr. Crowther, though he does seem rather too wroth, is calculated to do a great deal of good.

AN ESSAY ON THE CHEMICAL, BOTANICAL, PHYSICAL, AND PARTURIENT PROPERTIES OF THE SECALE CORNUTUM; with an Engraving. By T. H. Wardleworth, Surgeon. Simpkin & Co. 1840.

It is not a little curious that a fungoid excrescence on an ear of corn should have gained, and in a short period of time, a European and indeed a universal reputation for its specific powers over a particular organ in the human body! Yet such is the case. The discovery of its physiological effects belongs to America, and was probably fortuitous. Its chemical composition is as follows:—In one hundred grains of the secale there are 31 of a thick white oil— $5\frac{1}{2}$ of osmazome—9 of mucilage—7 of gluten—11 of fungin— $3\frac{1}{2}$ of coloring matter—26 of fecula—3 of salts—loss $3\frac{1}{2}$. (Wright's Analysis.)

That such a compound should possess the peculiar property of acting on the muscular fibres of the uterus, and thus expelling the fœtus, is one of the arcana of nature, and may lead us to hope and believe that thousands of potent remedies are yet undiscovered.

"If an infusion of the powdered Ergot be made, and kept covered for a few seconds, on removing the cover should the infusion have assumed a deep pink color, and the whole of the Ergot having settled to the bottom of the vessel, its powers, as a parturifacient, may then be depended upon. But should the infusion appear milky, and mucilaginous, with portions of the Ergot floating upon the surface, partly soluble, and partly insoluble; if, under such circumstances as these, the Ergot be administered, its effects are seldom if ever produced."

Mr. W. considers the powder as the only efficient preparation of Ergot. It is supposed that the midwives and old women in Germany and France were acquainted with the parturifacient powers of this curious drug, but its employment by the faculty is only recent. The most opposite and contradictory statements and opinions, as usual, prevail among medical men respecting the ergot. One represents it as superseding the use of instruments in all possible cases; another describes it as the "*pulvis ad mortem*," endangering the life of the mother, and destructive of the vitality of the *child*. A third class of practitioners aver that the ergot is totally inert, and that its effects are purely imaginary! Our author himself, from practical observations, is led to the conclusion that the secale cornutum "has no injurious effects whatever, either upon the mother or the child." Mr. Bower, a practitioner of wide experience in Rochdale, states to our author:—

"Out of 357 cases, of head presentation, in which I have administered the Ergot of Rye, in every stage of parturition, in all states of dilatation of the os uteri, and in many instances of the first child, I never had the slightest reason to regret its exhibition, or believed that it had acted injuriously on the mother or the child, except in two cases. In those cases in which it produced no effect, (being, however, very rare, when properly administered;) or, the effect having subsided without accelerating the delivery, yet I invariably found the labour to progress, or otherwise, as if no interference had been attempted. The children were born alive and vigorous, except where evident signs existed of their having been dead in utero for some time previous to the commencement of the parturient efforts; or where it had been deemed necessary for the safety of the mother, to have recourse to embryotomy, from a contracted or deformed pelvis."

In our author's own practice the ergot has been administered to 1500 patients, without any selection or preference, but "with the most satisfactory results."

"It has been an established practice to administer stimulants in cases of great feebleness and depression; if this be left with the nurse it is often done with indiscretion, if not with injury; but when a considerable degree of faintness is present, with a cold and pallid surface of the body, and the uterine contractions

feeble, attended with depression of spirits; then, under these circumstances, stimulants are called for: there has hitherto been no alternative; whatever may be the future evil the present must be overcome, and those stimulants have been habitually given, which act by the fever they create; but *Secale Cornutum* rouses the system far more certainly than any such stimulant, without raising the pulse; it does not act by a circuitous influence; nor does it induce a morbid arterial action, and thus rouse the torpid powers of the uterus, but its action is direct and specific, and from these circumstances we anticipate its complete adaptation in all natural labours, to the exclusion of stimulants. But we advance a step further, and state that *Secale Cornutum* is not only the most powerful and safe partus accelerator, but that it is also a powerful dilator of the os uteri."

As an accelerator in natural labour, our author is in the habit of giving 15 grains of the powder in half an ounce of warm water, as soon as the os uteri begins to dilate, and he repeats the dose in a quarter of an hour, if uterine action does not follow. It is seldom necessary, however, to repeat the medicine.

"In most cases a very short period elapses after the first dose before pain is referred to the pubic region, striking from thence to the back; the pains are slight at their commencement, and recur every two or three minutes, gradually increasing in strength and frequency till the os uteri is dilated to the size of a crown piece; the pains after this gradually decline and frequently altogether subside; when this happens the influence of the first dose may be considered as having passed, affording important information; first, that the influence of the medicine is of a limited duration; secondly, that the gradual manner in which the action advances to its full strength and then as gradually abates, is a safeguard in preventing a rupture of the uterus, and in lessening the tendency to hæmorrhage; the slight action at first, prepares the uterus for what follows. The pains having nearly ceased, the patient is in a fit state for a second dose which should be stronger than the first, but not exceeding one drachm, (we have in many cases given two scruples with success,) which renews the action of the uterus, and the child is in a short time expelled."

Mr. W. has followed this practice for twelve years, "and in that period his confidence in the drug has been, without interruption, increasing." Much suffering, he observes, much anxiety, and much time have been saved. But the ergot is applicable to other cases than natural labour. In two cases where premature labour was desirable, he used it with success.

"Both cases were at the seventh month, and to both the draught was administered three successive days, at the end of which time labour commenced, and in ten hours terminated; happily both mothers and children did well. Both the women had a distorted pelvis to an extent which rendered the operation of craniotomy necessary in their previous labours, one having been pregnant three, the other four times: so that the lives of two children have been thus saved to the credit of the means made use of, and with more safety to the patients than any method previously within the power of the medical attendant."

In uterine hæmorrhage, our author considers the ergot as of the first importance, by checking the flow of blood, during or after parturition.

"In presentations of the placenta attended with deficient uterine action, with a considerable degree of depression of the vital powers, I have given the Ergot with the view of inducing that permanent contraction which is so essential to the patient's security."

In descents of the umbilical cord, so low in the vagina as to cause obstruction of the circulation and consequent death of the child, our author has found the ergot of essential service, by insuring speedy delivery.

Numerous cases are detailed in this practical and unpretending little brochure which ought to be in the hands of every obstetric man in the profession.

A PRACTICAL TREATISE ON DISEASES OF THE LIVER AND BILIARY PASSAGES. By William Thomson, M.D., Physician to the Edinburgh Royal Infirmary. 8vo., MacLachlan and Co. Edinburgh, 1841.

THE greater part of this monograph has already appeared in that excellent publication, "The Library of Medicine," edited by Dr. Tweedie, and this circumstance must, of necessity, curtail the range of the present volume, notwithstanding that the "author has been enabled to discuss several topics more fully than was permitted by the limits of that work." The arrangement has also been remodelled, and the value of the book, no doubt, much enhanced by the separate form of publication.

Although there have been many detached papers and essays on hepatic affections during the last 30 years, yet, since the time of Saunders, no complete treatise on the subject has appeared in this country, till the present work was published. The *title* would have been more correct had it included *disorders* of the biliary apparatus, which in this country at least, are fifty times more numerous than *diseases* of the same. There is not, perhaps, a more widely extended error in pathology, throughout all grades of the profession in Great Britain, than that which respects the supposed prevalence of hepatic *diseases*. Whether Saunders or Currey, or Abernethy, or the host of East India practitioners that have come to reside in this country during the last thirty or forty years, may have originated or sustained this hepato-mania, we do not profess to know; but of this we are certain, that "LIVER DISEASE" is applied every day to *disorders* of stomach, duodenum, and colon, where even the function of the liver is scarcely implicated, much less its structure. But this is not all. We every day see patients who represent themselves as labouring under "enlargements of the liver," when we find that one of the bellies of the recti muscles has been set down as hypertrophy of the biliary organ.

The work before us is an excellent compilation on the subject of hepatic affections, functional and structural: and, as such, it is infinitely more valuable to practitioners and students than any original essay, however ably executed. But this very circumstance disables us, or any journalist, to offer any analysis of the volume. If we extracted or condensed that which is compiled from others, we should be wasting our time, and if we picked out portions of the original matter we should be doing great injustice to the work itself, by unravelling the thread by which the compiled materials are held together. We cannot do better, therefore, than strongly recommend the work as the best in the English language on the important subject of which it treats. There is one feature, however, in the book which we will just glance at. The able author seems to be afflicted with a complaint not very prevalent in this country, though almost universal on the Continent—the HYDRARGYROMANIA. Dr. Thomson has handled this part of the subject with great adroitness—very much in the way which a clever barrister states the case of his client to a jury. The Doctor, however, is more fortunate than the lawyer in this case. The case is sure to be met by a counter-statement from his brother barrister, that greatly alters the complexion of the case; whereas Dr. Thomson has it all his own way, and certainly he makes the best of it. There can be no doubt that mercury has been abused both in tropical climates and here at home; but we should be extremely sorry to see it discarded from the Pharmacopœia, or an unreasonable prejudice set up against one of the most valuable remedies which we possess.

REDSTONE'S GUERNSEY GUIDE ; OR, THE STRANGER'S COMPANION FOR THE ISLAND OF GUERNSEY, &c. &c. Duodecimo, pp. 142. Guernsey, 1841.

THIS is a useful little guide to those who visit one of the chief of the Channel Islands ; but we can only notice that part of it which relates to climate, in a medical point of view, and which is written by Dr. Hoskins, one of the principal physicians of the place.

Sir James Clark likened the climate of the Channel Islands to that of the adjacent coast of France ; but Dr. Hoskins thinks it more correct " to consider the climate of Guernsey as intermediate between that of the adjacent coast of France and the south-western districts of England." It is more mild in Winter than the *former*, and warmer at all seasons than the *latter*, " assimilating more closely to Penzance, and possessing the same peculiarity—warmth during the night." Not a trifling advantage of these islands is that of furnishing *luxuries* at a cheaper rate than the *necessaries* of life can be procured in most other places to which invalids repair.

The temperature is subject to frequent, but not great vicissitudes—the thermometer seldom rising above 80, or falling below 35°—never remaining long stationary, at or below the freezing point. The prevailing winds are westerly ; but between the vernal equinox (21st March) and the first week in May, keen easterly winds are frequent, which invalids ought to respect.

" To compensate, however, for these keen though gentle breezes, the usual concomitants of a British spring, the Guernsey summer is delightfully bland and temperate, and its delicious autumn encroaches smilingly into the month of November. So fine is the weather generally for about six weeks, at this season, that it has been proverbially denominated, ' Le petit été de Saint Michel.' From this period until January, the weather is mild but variable, with high, though not cold winds from the westward, accompanied by rain ; a combination called in the vernacular, ' Temps de Guernsey.' If there happens to be any cold weather, brief intervals of it now occur until late in February, when bland weather and often warm sunshine prevail, until the middle of March brings a return of the periodical gales."

An unfounded idea prevails that the climate is humid and relaxing ; but the annual number of entire wet days are few, and, on the whole, less rain falls in these islands than in England. The rain that does fall is in heavy showers, quickly succeeded by sunshine. The climate is considered by Dr. Hoskins as decidedly healthy, the islands being subject to no other epidemics than those of infantile diseases—and these are generally mild in form, and tractable in treatment. Dyspepsia, especially among the country-people, appears to be the most prominent malady, owing, Dr. H. thinks, to bad diet among the peasantry.

" The efficacy of our bland atmosphere in dry bronchial cough has long been acknowledged ; it also proves serviceable in almost all cases of irritation in the air-passages, whether accompanied by increased secretion or not. It is eminently beneficial in ' dry asthma,' not merely palliating the symptoms, but, in young persons especially, ultimately overcoming the predisposition to the complaint. To discuss the merits of the climate in consumptive cases would be idle ; change of atmosphere can only avail in the earliest dawn of the malady, and that change should be to a decidedly warm temperature. In the advanced stages the advantages should indeed be great, which induced a patient to forego the comforts of home, increased as they are by present improved methods of regulating temperature, for the questionable benefits resulting from a change even to a more genial climate."

We are much obliged to Dr. Hoskins for his concise but interesting sketch of the climate of the Channel Islands.

THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Edited by Robert B. Todd, M.D., F.R.S., &c. Illustrated with numerous engravings.

THE present number of this Cyclopædia appears to us a very good one. All the articles are written with care, and contain in their respective spheres an extensive amount of information. The very nature of the subjects precludes us from any circumstantial account of them. But we would select one or two passages for notice.

ANIMAL LUMINOUSNESS is exhibited in a clear manner by Dr. Coldstream.—This property of emitting light is almost confined to invertebrata, chiefly marine. We have accounts from several naturalists of certain *fishes* having been seen to give out light while in their native element, and some have conjectured,—but on insufficient grounds,—that all fishes do so. The turtle and a species of toad inhabiting Surinam have been reported to have the same property; and the eyes of some carnivorous mammals appear to emit flashes of light. But we find this function constantly and distinctly manifested only by certain mollusca, insects, crabs, annelida, aculephæ, and zoophytes. The sharks, more frequently than other fishes, are reported as luminous. The light given out by them is said to proceed from their abdominal surface. When large shoals of fishes are swimming rapidly, flashes of light, broad and deep, are sometimes seen about them and are supposed to be emitted by the fishes themselves. These appear occasionally at very great depths. They have been traced in the British seas to shoals of herrings and the coal-fish; and Dr. McCulloch enumerates also the pollack, the pilchard, the sardine, the whiting, the mackarel and the gar, as being sometimes accompanied by these lights.

Characters and Properties of Animal Light.

It is only in its most obvious qualities that animal light has hitherto been the object of scientific research. In color and intensity it varies very much at different times in the same animal, and still more in different animals. With regard to *colour* the following varieties occur. In *pholas dactylus* the light is bluish-white; in *lampyris noctiluca* it is greenish with a shade of blue; in *l. italica*, bright blue; in *Elater noctilucus*, brilliant green, with spots of "the most beautiful golden blue;" in *Fulgora pyrrhorynchus*, deep purple and scarlet; in marine animals generally it is white with various shades of blue. Doubtless these differences depend chiefly upon the various colours of the integuments through which the light is seen.

In *lampyris italica*, there are alternate emissions and extinctions of the light, which take place with some degree of regularity and seem to be synchronous with the pulses of the circulating current, visible in the wing-cases of this beetle.*

The fire-fly (*Elater*) shews two kinds of light; one constant, like that of the glow-worm, but more feeble; the other a vivid white light suddenly intermitted. Its illuminating power seems to be greater than that possessed by any other animal; the light emitted from its two thoracic tubercles is so great that the smallest print may be read with it; and in the West Indies, (particularly in St. Domingo, where they are abundant,) the natives use them instead of candles in their houses. They also tie them to their feet and heads in travelling at night to give light to their path through the forest. The intermitting of the light in

* A species of *lampyris* lately found in New Holland is said also to shine in rhythmical pulses. *Isis*, vol. ii. p. 245.

this insect is such as to give an observer the idea of a membranous veil being suddenly drawn over the source of light, and then as suddenly withdrawn.

In a species of cancer seen by Smith in the Gulf of Guinea, the light (which seemed to be emitted by the brain) was of a deep blue color when the animal was at rest; but when it moved, bright coruscations of silvery light were darted from it in all directions. The light of some centipedes inhabiting the islands of the Pacific is of a beautiful emerald-green color. It is connected with a mucous matter covering the animal, which may be rubbed off by the fingers, and communicates to them a smell not unlike that of muriatic acid.

Sometimes the light proceeding from the sea is so white and dull as to give the effect of a sea of milk. This is frequently seen in the Gulf of Guinea, and seems to be caused sometimes by the presence of numerous *Salpæ* and *Scyllari*, at other times by the admixture of the *debris* of fishes and other marine animals recently dead.

An extraordinary series of phenomena connected with a particular display of the luminousness of the sea, is reported by Mr. Henderson as having occurred in the Atlantic, (lat. 20° long. 21° 20' W.) on the 5th March, 1821. About 9 p.m. the sea appeared unusually luminous. Every person who kept his eye fixed upon it for but a short time was immediately affected with giddiness, headache, pain in the eye-balls, and slight sickness. Although these symptoms varied in intensity amongst the spectators, yet there was not one on board who did not feel some degree of them; and all imputed them to the effect of the light proceeding from the surface of the ocean. Mr. Henderson remarks: "For my own part, the headache, &c. which followed immediately my looking at the water, was particularly severe, nor did it go off until morning. The effects I experienced were like those produced by smoking too much tobacco."

There have been recorded some accounts of very intense light produced over a great extent of the ocean's surface by luminous animals, but it does not appear that any other voyagers have experienced physical effects from the light such as are described by Mr. Henderson. The great intensity with which it is occasionally produced by marine animals, however, is well illustrated by the descriptions that are given of the moral emotions with which it inspires the beholders. Witness, for instance, Mr. Bunycastle's description of a scene which he met with in the Gulf of St. Lawrence, (7th Sept. 1826.) While it was very dark, a brilliant light, like that of the Aurora, was seen to shoot suddenly from the sea, in a particular quarter. It spread thence over the whole surface of the water between the two shores of the Gulf; and shortly there was presented "one blazing sheet of *awful* and most brilliant light." "Long tortuous lines of light showed many large fishes darting about as if in consternation at the scene." The light was sufficient to enable one to see the most minute objects on the ship's deck. On drawing up a bucketful of the water, and stirring it with the hand, it presented "one mass of light, not in sparkles as usual, but in actual coruscations."

Messrs. Quoy and Gaimard state that in handling luminous marine animals while alive, they have always been sensible of an odour proceeding from them similar to that which is perceived around a highly charged electrical apparatus.

The only observation with which we are acquainted that seems to indicate the evolution of heat in connexion with the light of animals, is that reported by Macartney, who states that he found the thermometer raised by two or three degrees when placed in contact with a group of living glow-worms shining, or even with their light giving sacs cut off. The repetition of this experiment, however, has not produced the same result in the hands of others: they saw no rise of the thermometer.

By far the greater number of luminous animals with which we are acquainted are natives of warm climates; but those inhabiting the ocean are seen in almost all latitudes, even in the coldest; although in these they are not so numerous,

and give less light. No aerial insects give out light, in ordinary circumstances, excepting at a temperature of about 50° Fahr. and upwards; and the higher the natural temperature, the brighter is the light emitted.

Marine luminous animals very readily emit their light on being struck by any moving body; so that one of the most commonly observed phenomena connected with this subject is the sparkling of the minute *medusæ* and other animals, swimming on the surface of the sea, when they are dashed against the sides of a ship, struck by an oar, or tossed on the foamy crests of the waves; and this even while no other light is seen excepting just at the points where the water is agitated.

When any loud noise is made near a luminous insect while shining, it frequently ceases to give out its light.

With regard to insects, we have many concurrent testimonies to the fact that more light is emitted during the season of procreation by most of the species than at other times.

That the luminous function is in many animals directly under the control of their will, seems to be proved by the fact, that while under any sudden irritation calculated to alarm them, they, at first, emit light strongly, yet on the frequent repetition or continuance of the same kind of irritation, they extinguish their light, and cannot be excited to shew it again for a considerable time.

Effects of Extraneous Circumstances.—Light giving animals being removed from their natural situations, and subjected to artificial processes and agents, are found to have their luminousness affected by being exposed to, 1. the effects of accumulated electricity and electrical currents; 2. immersion in various fluid and gaseous media; 3. pressure of their bodies; 4. removal of their luminous organs, and mutilation of these and of other organs; 5. exposure to various degrees of heat and moisture; 6. immersion *in vacuo*; 7. removal from all foreign sources of light.

The luminous organs may be cut out from the bodies of glow-worms and fire-flies without the peculiar property of the organs being immediately destroyed. The emission of light can for some time be re-excited by slight mechanical irritations; as by touching the organs with the point of a pin. Those of the glow-worm have been seen to shine for two or three days after excision, when slightly moistened with water, heated or electrified. In experimenting on the same insect, Todd found that the light was extinguished within six minutes after the head was cut off; as also when the luminous rings were cut into, but was renewable by the application of heat. Sheppard removed the luminous matter from a glow-worm; the wounds healed within two days, and the body became again filled with new light-giving substance.

If luminous insects be confined in a dark place, they shine little in the early part of the day, but long before night they begin to do so: although generally, in their native situations, they do not emit light until the twilight. If the confinement in a dark place be protracted, they do not shine so brightly as after having seen the sun during the day.

Anatomy of Light-giving Organs.—The researches on this head are imperfect. The following are the results obtained by Macartney and Spix from their dissections of the glow-worm, the fire-fly, and the lantern-fly.

In the glow-worm, there is spread over the internal surface of the segments of the abdomen a yellowish substance of the consistence of paste, which is thickest in the middle of each segment, and terminates near each margin by a wavy outline. It is of a closer texture than the fatty matter, but otherwise resembles it. Besides this substance, the last segment is furnished internally, just beneath the most transparent part of its integument, with two small round bodies, lodged in depressions, which contain yellow matter of more close and homogeneous texture.

Müller and Murray describe these round bodies as "two small ovate sacs, composed of thready membranes, and filled with a soft yellow pasty matter." Under the microscope, they appeared to Macaire to be composed of numerous branching filaments, with minute granules adhering to them. It is from points of the surface corresponding to the situation of these round bodies that the light is most constantly and most brightly emitted. When dry, these luminous organs have somewhat of the appearance of gum. The dried matter is translucent and yellowish, becomes darker on being kept, and appears to be granular in its structure. Its specific gravity is a little greater than that of water.

In the fire-fly, the internal concavities of the yellow spots of the corselet, whence the light proceeds, are filled with a soft yellow substance, oval in shape, and of very uniform consistence and density. This, under the microscope, appears to be formed of a large number of very minute parts or lobules, closely pressed together. Around the oval bodies, the fatty matter of the corselet is arranged in a radiated manner. Spix describes the same organs as "yellowish glandular masses, into which many branches of the trachea enter." In *elater ignitus* the masses of luminous substance are extremely irregular in their figure; they are situated close to the posterior angles of the corselet, and are more loose in their structure than the same parts in *elator noctilucus*.

The luminous proboscis or snout of the *fulgora* is hollow, and has a free communication with the external air by a narrow slit situated near the base of the organ. Its cavity is lined with a fine membrane, between which and the outer translucent corneous crust, there is interposed a soft tissue of a pale reddish colour, arranged in lines longitudinally, which is supposed to be the seat of luminousness in this insect.

Theories of Animal Luminousness.—Out of seven, the following three appear the best.

5. That a fluid containing phosphorus is secreted by the luminous organs, and shines on its being exposed to the oxygen of the air introduced by respiration. (Darwin, H. Davy, Heinrich, Treviranus, and Burmeister.)

6. That the luminous organs concentrate and modify the nervous influence so as to form it into light: so that, according to this theory, animal luminousness is an effect *solely* of vital power. (Macartney and Todd.)

7. Tiedemann thus expresses his opinion: "Animal luminousness would seem to depend on a matter, the product of the changes of composition accompanying life, and, to all appearance, secreted from the mass of humours by particular organs. This liquid probably contains phosphorus or an analogous combustible substance, which combines with the oxygen of the air or of aerated water at a medium temperature, and thus produces the disengagement of light. The preparation and secretion of this substance are acts of life, which change, augment, or decrease by the influence of external stimulants, whose action on the animals modifies their manifestations of life. But the phosphorescence itself depends on the composition of the secreted matter and cannot be regarded as a vital act; because, on certain occasions, it continues for whole days and even after the death of the animal."

Our author leans to that of Macartney and Todd, but is obliged to prop himself on the chemical too.

Uses of Animal Luminousness.—We know nothing certainly with regard to the uses of the light-giving function; but as almost all observers have remarked that male insects seem to be attracted towards their mates by the brilliancy of the light emitted by the latter, it has been generally supposed that the luminousness is subservient to the generative function. Although it may be so to a certain extent, it is obviously not essentially connected with it, even in the glow-worm; for [the light endures] long after the season of love is past. Some have con-

jectured that the light may sometimes be the means of preserving its possessors from the destructive attacks of enemies. Thus Sheppard observed a large beetle running round a shining *scolopendra*, as if wishing to attack it, but seeming to be scared by the light. We may imagine, also, that the light enables its possessors to see surrounding objects at night, and so to thread their way in safety through the darkest places.

Considering that, in the ocean, there is absolute darkness at the depth of 800 or 1000 feet, at least that, at such depths, the light of the sun ceases to be transmitted, Macculloch has suggested that, in marine animals, their luminousness may be "a substitute for the light of the sun," and may be the means of enabling them to discover one another, as well as their prey. He remarks, "It seems to be particularly brilliant in those inferior animals which, from their astonishing powers of reproduction, and from a state of feeling apparently little superior to that of vegetables, appear to have been in a great measure created for the supply and food of the more perfect kinds."

LYMPHATIC AND LACTEAL SYSTEM is well described by Mr. Lane. We are induced to quote a passage embodying the anatomical views of this gentleman.

"It has appeared to me in the first place, that anatomists who have especially devoted their time to this interesting subject of late years, have not yet fairly freed themselves from the influence of the Hunterian views with respect to the part performed by the lymphatic vessels, as well as by the arterial capillaries, in effecting the growth and habitual nutrition of the structures. To support the Hunterian theory the lymphatic was required to be present with every molecule of the organization, there with open mouth (for imbibition in the living body was not admitted as possible) to remove the old material in order to make room for the new, which was supposed to be deposited by the open mouth of capillary arteries. Now, although physiologists no longer admit that the arteries any where terminate by open mouths, but consider all nutrition to take place by the transudation of the liquor sanguinis through the delicate tunics of the capillary blood-vessels, and although venous absorption, as well lymphatic, is acknowledged to take place, consequently that the ubiquity of the lymphatic ceases to be a matter of necessity, still it appears to me that physiologists have not yet shaken off the old impression, that every particle of the organization must have its lymphatic vessel, and I cannot help thinking that the continuance of the impression is misleading us in our notions of the arrangement of the system.

There are also some additional anatomical considerations which have had their weight in leading me to the opinion that the lymphatic system is less extensive than is generally supposed. It is not, I believe, known to anatomists that the lymphatic vessels admit readily of dissection in their uninjected state; these vessels do not easily give way under traction, and by using the forceps to hold them and a blunt but pointed instrument to detach them from the surrounding cellular membrane, to which they are but loosely attached, they may be dissected with equal facility as the cutaneous nerves, for which they are not unfrequently mistaken by the young dissector. I have in this way several times dissected the lymphatics of the upper extremity, from the glands in the axilla to the fingers, and in the lower, from the inguinal glands to the toes. In proceeding thus to trace these vessels, scarcely a single lateral branch can be detected in the leg and thigh by which the supposed universal network of the surface of the skin could have been connected with the rest of the system. When the subcutaneous lymphatic vessels are injected with quicksilver, every anatomist must have remarked the absence of the lateral branches; this has always been accounted for by supposing a valve at the termination of each lateral branch into the larger longitudinal vessels; but in dissecting these vessels in their uninjected state, the lateral branches

if present ought to be met with, which is not the case. I am fully aware that Haase, and other investigators, have succeeded in getting the injection to pass in a retrograde direction from the subcutaneous lymphatics of the lower extremity into a net-work of vessels of small extent situated close to the surface of the skin; this has occurred to myself on two occasions, in the skin over the tibia, and in the inguinal region, but in both these instances it was in a portion of skin presenting a cicatrix; the net-work was circumscribed, and left the impression on my mind of an abnormal rather than of a normal condition of these vessels. The entire profession have adopted the notion that the process of ulceration is effected by the lymphatic vessels, consequently that, as every structure may ulcerate, so it must have its lymphatic vessel. But I may be permitted to ask pathologists to consider, whether they are still influenced by the Hunterian theory, viz. that the countless open mouths of the lymphatics (which modern anatomists do not allow them to possess) effect the removal of the textures disappearing by ulceration, rather than by the few facts and observations bearing upon this important question. I would ask whether the occasional instances, of inflamed lymphatics containing pus, being found leading from an ulcerated surface, are sufficient to establish the opinion, that the whole process is effected by this set of vessels; or whether the occurrence is not more satisfactorily accounted for, by the supposition that the ulcerative process has implicated a lymphatic vessel, and that the pus has entered the vessel by an opening thus effected in its paries, or that the pus has been formed in the lymphatic itself, as the result of inflammation affecting its interior; more particularly when it is borne in mind, that the pus globule is much too large to have entered these vessels by imbibition, and that open mouths are denied to them. The parts of the body in which I have seen pus in the lymphatics, have been on the surface of the lung, on the mucous membrane of the intestines, on the penis when ulcers had occurred in these organs, also in the subcutaneous lymphatics after suppuration and sloughing of the cellular tissue,—situations in which every anatomist has seen lymphatics, and where the ulcerative or sloughing process might readily have effected an opening into them."

We again and for the twentieth time cordially recommend this work to the profession.

COMPARISON OF THE SICKNESS, MORTALITY, AND PREVAILING DISEASES AMONG SEAMEN AND SOLDIERS, AS SHOWN BY NAVAL AND MILITARY STATISTICAL REPORTS. By Major A. M. Tulloch, F.S.S. Read before the Statistical Society, 15th Feb. 1841.

THE parallel between the two Services could only be extended over the seven years that preceded 1837. The first table in the paper gives the following result, in respect to troops and seamen in the Mediterranean for 1830 to 1837. The mean strength of the NAVAL force was 55,709—of which 72,671 came under medical treatment, deaths 617—invalided 1433. The annual ratio of mortality was 11 1-10th per one thousand men. Let us see the MILITARY results. The mean strength was 62,300—the number treated for sickness being 67,779—and the deaths 1,270—or 20 1-10th per thousand men!!

The striking difference in the ratio of mortality in the two services is attempted to be explained, in part, by the talented author—such as sailors being more subject to slight hurts than soldiers, &c. but still, there must be other and more potent causes in operation than those stated by the Major. The following passage is more to the point.

"To these circumstances, tending to lower the mortality on ship-board, may

be added the sanatory influence of the sea-air on those chronic affections of the liver and bowels, from which persons are apt to suffer in warm climates, and which will be adverted to more particularly in the following comparison of the various diseases to which the naval and military forces stationed in this Command have respectively been subject during the period under review."

We may now glance at the comparative prevalence of particular diseases. Thus diseases of the lungs amounted to 13,514 out of 55,709 seamen, of which died 177. The pulmonic diseases in the army amounted to 8,955, in 62,300 men, of whom 405 died—or rather more than double the number in proportion. As a set off, however, we must recollect that there were more lung affections, as compared with the whole force, in the navy than in the army, and the probability is, that they were more slight in their nature, and consequently less fatal in the result.

The statistics of phthisis in the two services are somewhat remarkable. Thus in aggregate naval force of 55,709, there were 285 cases of consumption, of which 105 died. In the army aggregate of 62,300, there were 417 cases of phthisis, of which 272 died—or about two-thirds. In the navy, then, we find that nearly one-half of the cases of consumption recover! A contemplation of this statement plainly tells us that, after all, we must take or make our calculations with considerable caution. Suppose we were to take either the naval or military reports, or both, for our guides in private or in public practice, and were to predict that one-half or one-third of our consumptive patients would recover, what would become of our diagnostic or prognostic reputation at the end of 20 years? It is manifestly evident that the basis of the statistical report was erroneous—and that not one in ten—no, nor one in 30 of the cases were phthisis in reality. If, in this case, then, we detect a most decided error in the basis of the statistical record, are we to fear that similar errors are necessarily incorporated with the other items, and that statistics are not to be depended on? It must be remembered that, in no disease whatever, are there more errors of diagnosis committed, both in public and private—among all classes and ranks of practitioners, than in phthisis. Hence we find quacks and regulars advertise their nostrums, and publish their false doctrines respecting "consumption curable." We must not therefore undervalue statistics, because they tell us, in figures, that the naval doctor cures one-half, and the military one-third of their cases of phthisis. Major T. thinks that the circumstance of invaliding has tended to increase the error.

There seems, however, little doubt that either the sea air or the excitement produced by the voyage, do sometimes operate very materially in alleviating the symptoms of this disease. Many soldiers sent home from Malta, with the apparent symptoms of confirmed phthisis, have arrived in this country in renovated health, and speedily returned to their duty; and so marked has been the improvement in several instances, that within the last year increased facilities have, at the special request of the medical officers, been afforded for sending home invalids of this class. Thus while the faculty in this country are sending their consumptive patients to Malta, the medical officers in that island are sending soldiers labouring under the same disease to England; and as benefit is supposed to be derived from the change in both cases, it seems much more likely to arise from the influence of the voyage than mere change of residence, especially as the proportion of deaths among those labouring under consumption is remarkably low on ship-board."

DISEASES OF THE LIVER.

In the aggregate naval force already mentioned there are 403 attacks of inflammation of the liver, of whom 12 died. In the army (62,300) there were 722

attacks of hepatitis, and 29 deaths. The ratio of mortality, as regards the aggregate strength, was just double in the army, as compared with the navy.

DISEASES OF THE STOMACH AND BOWELS.

The number attacked by inflammation, dysentery, indigestion, diarrhœa, cholera, and other affections of this class, amounted to 8,646, in the naval aggregate of 55,709—and 52 died. In the military force (62,300) there were 11,737, and 157 deaths. Thus the ratio of fatality was, in the army $2\frac{1}{2}$ per thousand men—whereas it did not amount to quite one in the thousand seamen. This is very remarkable.

Cholera occurred in 96 cases out of the aggregate naval force, with 23 deaths. In the army there were 459 cases, and 131 deaths. Here again the ratio of mortality was greater in the army than in the navy.

DISEASES OF THE BRAIN.

This class comprehends a number of genera and species, and shewed, in the navy (55,709) 958 cases, with 52 deaths—in the army (62,300) there were only 656, with 67 deaths. Here the proportion of attacks is greatest in the navy, and the mortality least.

In the whole of the naval force during seven years, there were only two cases of suicide—in the army there were 20, independent of several found drowned.

In dropsy (subcutaneous, abdominal, and thoracic) the mortality was just double in the army, as compared with the navy.

The following table shews that there are five kinds of disease (few of which are fatal) which are much more prevalent in the navy than in the army.

	NAVAL FORCE.		MILITARY FORCE.	
	Out of an Aggregate Strength of 55,709.		Out of an Aggregate Strength of 62,300.	
	Attacked.	Died.	Attacked.	Died.
Rheumatism	3,560	8	2,740	4
Syphilis	2,771		1,522	4
Gonorrhœa	1,451		2,254	
Uicers	3,969	6	3,508	
Erysipelas	531	15	137	4

Thus rheumatism is much more frequent, in the naval than in the military service, and well it may be, when we consider the exposure of the seaman to night air and wet weather, while keeping watch and watch every night, while the soldier only mounts guard once in three or four nights, and is generally sheltered from the storm. It is not so easy to account for the greater frequency, and also the greater fatality of erysipelas on board ship, as compared with the same disease among soldiers on shore. Probably the frequency of exposure to wet, cold, and night air, when going aloft or keeping watch, together with the paucity of vegetables and fresh meat, may predispose the sailor to erysipelas more than the soldier. We return Major Tulloch our best thanks for this interesting paper.

AN APPEAL TO PARLIAMENT, THE MEDICAL PROFESSION, AND THE PUBLIC, ON THE PRESENT STATE OF DENTAL SURGERY. By George Waite, Esq. Surgeon Dentist, M.R.C.S. &c. London : Highley, 1841.

MR. WAITE, who is an accomplished dentist, places the unprotected state of dental surgery, and the impositions on the public that it leads to, in a striking light. The following anecdotes are piquant.

"It will not be inappropriate here to quote a ludicrous scene which occurred a few days since at one of our public offices, shewing the present degraded state of this branch of the medical profession.

Magistrate.—Then after he made three sets of teeth, which were of no use, he persuaded you to go to Mr. —, whose pupil he said he was?

Complainant.—He did.

Mag.—Did you go?

Com.—Yes.

Mag.—What did he say?

Com.—That for a hundred guineas more, he would make me a set of teeth with which I could eat beefsteaks, and which would last me my life. (*Loud Laughter.*)

Mag.—Did you pay him the money?

Com.—Yes.

Mag.—Have you a receipt?

Com.—No. I asked for one, but he would not give it me, and I have called on him without being able to see him.

In another instance I was requested by my friend Dr. Scott, to give advice where an elderly and helpless lady had been defrauded of an enormous sum for two most clumsy-looking bits of gold, which it was pretended were worked up at Paris, by some extraordinary workmen, which were to be found nowhere else in the world.

Not long since, I was informed that a gentleman received an account of £170. for work done for his family, which was not worth £10. and which enormous sum was compromised for £100.

A lady, caught by the advertisement of a man calling himself the first operator of the day, and other high-sounding titles, stating that no one in the world but himself knew anything of the art, was compelled to seek redress at a court of law; the verdict was against her, but in the trial it came out that a model was made of her mouth before the teeth were extracted, therefore, how could the work answer. If any dentist of respectability had been subpoenaed on this trial, the verdict would have been different. We find governesses and servants who have saved money are too often duped by these men, and in many instances they are left wholly destitute.

I refer only to cases which have come within my own knowledge.

The system is not confined to London. Near Oxford, a dentist persuaded a poor groom, who had just received £8. for wages, that unless his teeth were cleaned and some extracted, he would lose his life. He sent him home *minus* the £8. His master is an intimate friend of mine."

Mr. Waite recommends that the legislature demand evidence of qualification, before a licence to practice dental surgery is given. He advises the following system of education.

"But perhaps I might subjoin a view of the system of education which I should recommend a dentist to pursue. Mathematics and mechanical philosophy should form the groundwork of his education. I would urge that it ought to be imperatively demanded by the Medical Reform Bill that he pursue a system of work for three years, at least, to gain a steadiness of hand and thorough knowledge of instruments.

In proof of the necessity for this qualification I may urge a case or two, (one occurred not long since.) where an instrument having slipped, lacerated the soft palate, broke the small bones contiguous to it, and stopped against the base of the skull. This occurred to the daughter of an exalted personage ; both however are now no more.

In another instance, a sharp instrument went through the cheek at once, and often instruments have slipped down the side of the lower jaw into the glands under it. Steadiness of hand, which work alone can give, should be an essential consideration. I would have every dentist well versed in chemistry, have attended three courses of lectures on anatomy, physiology, and surgery, and also have pursued hospital practice.

This should qualify him for examination, his licence to practice, or his diploma, should be given to him on his qualifications being proved, and his pupils afterwards always apprenticed to and examined by a board of officers.

There might exist a reserved clause, that all dentists being established at this time, should be examined as to their qualifications, and their age noticed ; and wherever gross abuse has existed and can be proved, the licence should be refused."

A FEW HINTS ADDRESSED TO MEDICAL STUDENTS ABOUT TO VISIT THE PARISIAN HOSPITALS. By a Physician. London : John Churchill, Princes-street, 1841.

THESE hints are mostly worth having. We shall take one or two of them. And first a hint on *lodgings* and *eating*.

It is a matter of experience known to all the medical men of Paris, that a large proportion of the medical students are attacked with fever within a very short period of commencing their studies. Now, though this may be accounted for in many ways, and may arise from various causes, yet it is generally allowed that the situation selected for their lodgings is of itself sufficient to be an exciting cause of disease. A more unhealthy situation than some of those small and narrow streets and alleys that abound near the Ecole de Médecine cannot be conceived. In these parts the medical students chiefly reside, for the sake of convenience and economy ; here they congregate together in the miserable *maisons garnies*, living, as they occasionally do, two or three in one apartment. The cheap restaurants or eating-houses that also here abound, only add to the general wretchedness of the scene, wherein, under the semblance of comfort and economy, the student is offered his *dejeuner à la fourchette* for sixteen sous, and his dinner *de quatre plats* for twenty-two sous. To many this may appear of little importance, and to be little connected with the subject under consideration : but reason and experience will draw a different conclusion. Is it possible that the body accustomed to nutritious and healthy food, to all the comforts of English living, to fresh and wholesome atmosphere, can meet with so sudden and so great a change as this, and not be affected by it ? What quarter then of Paris is to be selected by the student ? If the faubourg St. Germain side of the Seine must be chosen, from its contiguity to the hospitals, the rue de Seine St. Germain, or the rue de Sts. Pères, affords a far more healthy and open situation than the localities previously mentioned. True it is, that apartments may be somewhat more expensive, yet surely it is far preferable to sacrifice a small sum of money for the sake of health than to run the risk of becoming the victim of low typhoid fever. The Tuileries side of the water is colonized to a great extent by the English, and it is certainly preferable to the faubourg St. Germain. Here lodgings are to be had tolerably cheap, but depend much on situation. In the faubourg du Roule, the continuation of the faubourg St. Honoré, lodging may

be procured at a moderate price, and the situation is very healthy, but is some distance from Hôtel Dieu, La Charité, La Pitié, &c. It is, however, contiguous to the Hôpital Beaujon, to which M. Louis has lately been appointed, during the alterations that are taking place at Hôtel Dieu. Again, with regard to meals; one wholesome dish in a respectable restaurant's is far better than four offered for the same money in many of the cheap eating-houses. For two francs a good dinner may be procured, and a déjeuner or breakfast for thirty sous, in many a clean and wholesome restaurant's. The great difference that exists between French and English living must, more or less, effect every constitution, however strong it may be. It is scarcely possible to conceive of two greater extremes. In Paris there are a set of small hotels, which profess to give English dinners. These are generally as dear as they are bad; but one or two are to be found in the neighbourhood of the Boulevards des Italiens, where, at times, a tolerable English dinner is to be met with; in these, as must of necessity happen in places of like description, the company is not of the most select order: but if this can be dispensed with, it is certainly worth while of those who are suffering from the dyspepsia of Parisian cookery to try for a time the change.

Walking the Hospitals should not be entered upon for the first three weeks after the arrival of the student in Paris. The atmosphere of Paris is very peculiar, and this is exemplified in the numerous patients that enter its hospitals, the victims of its effects on the constitution. It is a question that is asked of every patient, how long he has been in Paris? The first month is the most trying period; before, then, the student commences his labours, he should, to a certain extent, have become habituated to the change of air: his constitution should have time to accustom itself to the peculiarities of difference.

What Hospitals are worth attending?—Of the Parisian hospitals there are none that offer such a concentration of medical skill as La Charité. This is situated in the rue des Sts. Pères, and contains between five and six hundred patients. MM. Andral, Cruveilhier, Velpeau, Rayer, Bouillaud, Fouquier, are all to be found within its wards.

He who would learn accurate diagnosis, who would study the use of the stethoscope in its mean, and not in its extreme; he who would learn pathology, by close attendance to the dead house, should follow the service of M. Andral. There are few so free from that national error, excitement, as this celebrated man.

No hospital is better known to us by name than Hôtel Dieu. It was the largest in Paris, containing at one time 1200 beds, but its size is much diminished owing to the improvements which are being made in its immediate vicinity, which have rendered it necessary to pull down one of its largest wings.

Of the surgeons attached to this hospital are men whose names are familiar to all in the profession, as MM. Roux and Breschet. The former makes his daily visit, at half-past six in the summer, and at seven in the winter months, and this is followed by his clinical lecture in the amphitheatre of the hospital. M. Breschet commences his rounds at nine o'clock.

There are no less than ten physicians attached to this hospital. Amongst the most celebrated are Chomel, Magendie, and Louis. M. Chomel lectures from nine to ten on Mondays, Tuesdays, and Fridays.

Another hospital that is generally visited by foreigners is the Hôpital St. Louis, in which an opportunity is particularly afforded of studying diseases of the skin. It is situated within five minutes' walk of the rue du faubourg St. Martin. One of the streets leading out of this, called the rue des Recollets, will be found the direct way to this hospital, which is situated in the rue de l'Hôpital, directly in front of the canal that is at the end of the rue des Recollets.—Here it was that Alibert and Bielt collected their vast mass of information, and were to be found morning after morning, in the midst of their squalid band of

patients. But now no more remains of them than a dirty marble bust of the former.—soiled by the hands of the numerous patients that mount the staircase where it is placed—to mark the haunt of this once celebrated man. Time makes sad changes in our profession as in every other, and to this the Hôpital St. Louis bears ample testimony. MM. Lugol and Emery are the only remains of the former days of St. Louis.

M. Lugol is in every sense of the term, a great man. He styles himself “*Le grand lustre du monde.*” It is curious to follow him in his scrofulous wards, and there hear him descant on the miraculous powers of iodine.

Near to the Hôpital des Veneriens is the Maison d’Accouchement, or Hospice de la Maternité. There is much difficulty in gaining admission here, as no medical man has a right within its wards, excepting those that are officially attached to it. There are between four and five hundred beds within it.

The Hospice de la Salpêtrière is an establishment on a very large scale. It contains between five and six thousand beds, entirely for women. Of these a certain number are appropriated to old and infirm persons, others are set apart for patients labouring under incurable diseases. Here it was that M. Cruveilhier compiled his admirable work on pathological anatomy, the dead-house affording no small supply of diseases, in their most hideous forms. A certain portion of this establishment is allotted to those who are of unsound mind, their number varying from a thousand to twelve hundred.

The Bicêtre is for men what the Salpêtrière is for women.

Parisian Dissecting Rooms versus the English.—True it is that subjects for dissection are far more numerous than those in England. In this point there is certainly a superiority. When, however, the accommodations that are provided in the Parisian dissecting rooms are taken into consideration, the preference will be given to those of our own country. Let the student who has been accustomed to the dissecting rooms in England enter those in Paris: the stench which first assails his nasal organs is almost insupportable, from the system of smoking which is carried on within them. Again, there is nothing like decency or order kept up; portions of viscera, detached limbs, pieces of dissected muscle, fat, and cellular membrane, are seen to cover the floor. It is necessary to be careful how we tread, lest we should stumble against some limb lying in our way, or slip up, from stepping on some viscid substance that may be strewn upon the ground.

There are two great dissecting schools in Paris. One is close to the Ecole de Médecine, and adjoins Dupuytren’s museum of morbid anatomy; the other is situated near the hospital of La Pitié, and is called Clamart. This is one of a more modern date than the former, to which it is thought preferable. It is certainly situated in a more airy neighbourhood, and its accommodations are somewhat of a better order. It is necessary for all those who intend to dissect, to become pupils of the internes, who have the choice of all subjects brought for dissection. Each interne has four pupils, who are attached to one subject, that is usually changed every ten days or a fortnight. The sum for the season, which lasts about five months, is about 150 francs, or six pounds. To those who would be free from the inconveniences of the common dissecting rooms, a means is offered of dissecting in private, by becoming the pupils of the overseer of the school, who has private rooms set apart for this purpose. He of course demands a sum of money in proportion to the convenience offered, and this more especially of the English, who are always supposed to have a superabundance of money, wherewith they can afford to pay handsomely.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

M. ANDRAL ON THE MODERN DOCTRINE OF HUMORAL PATHOLOGY.

THE following extracts, from one of the Lectures on General Pathology and Therapeutics recently delivered by this illustrious physician at the Faculty of Medicine at Paris, will be read with interest at the present moment by all who take an interest in the progressive changes of their professional literature.

"The history of those humoral alterations, which is to occupy our attention during the present session, comprehends three distinct parts—the study of the opinions and of the facts which belong to former times; the study of our existing actual knowledge and information which has been derived from the researches of modern chemistry; and, lastly, the pointing out of the gaps which still remain to be filled up, and for doing which we require much fresh and extended examination. If we have followed the progress of medicine in past times, we cannot fail to be struck with the very great difference between ancient and modern *humorism*.

From the time of the Greek philosophers down to the tenth century—a period which constitutes the *first epoch* of humorism—the various doctrines that were successively in vogue were the offspring of mere conjecture. The four humours of the body, the four constitutions or temperaments, the four elements of nature, &c. about which so much has been written, were purely hypothetical creations, devised for the purpose of explaining the cause of diseases, as well as the mode of their progress and termination. The reasoning, which led to the admission of these humoral changes, was not exact, and was suggested merely by the necessity of discovering some mode of accounting for the development of certain maladies, which have evidently their origin in a lesion of the principal fluids of the system. The ancient humorists committed the serious error of proceeding by mere reasoning and conjecture in their examination of these changes, and of losing sight almost entirely of experimental research.

In the *second epoch* of humorism, comprising the period from the sixteenth century to recent times, the chemists, by substituting for the notions of their predecessors certain ideas derived from experiments performed in the laboratory, made certainly some progress in science; but their theories, although more exact than those which preceded them, were always imperfect and often quite erroneous, in consequence of their authors mistaking the animal economy for a mere laboratory, and of their neglecting to examine experimentally the fluids of the body.

Modern humorism has sprung up from the observation of facts in the very face of a solidism, which, being unable to render an explanation of all the phenomena of disease by the changes in the solids of the body, has been obliged to seek for it in the changes of the fluids. When we attentively study the different phases, through which pathological anatomy has passed during the last 40 years, we are convinced that one of its most immediate consequences is this very study of the various changes that are apt to occur in the different fluids of the body. And is it not natural that, after having examined by all known means of investigation the physical modifications which organs experience in the course of disease, and finding that those means fail to render an explanation of the morbid phenomena we should interrogate the condition of the fluids by means of processes which chemistry alone suggests? The microscope, also, is an instrument which assists us in penetrating the intimate structure of the humours, and the nature of their alterations."

..... "It must be admitted that modern humorism has hitherto made but little real progress. In respect to the alterations of the fluids we are very nearly about the same point as the Greek physicians were in the days of Hippocrates in

reference to the alterations of the solids. The old Coan, in one of his writings tells us that we must not neglect these alterations, just in the same manner as the solidist physicians have in recent times told us that we should take account of the changes which may occur in the fluids; but little more was done in either epoch of our science than the occasional announcement of such vague advice.

To impart a more vigorous impulse to this department of medical enquiry, we must commence and prosecute a series of researches similar to what have been done for the solids during the last 40 years. Pathological anatomy reveals to us the lesions which occur in the constitution of the organs of the body, and chemical analysis will do nearly the same for the fluids; it is in truth a sort of pathological anatomy.

By separating the different elements which compose them, and by ascertaining if, and to what extent, these elements are altered in quality and quantity, chemical analysis may do much to assist us in the investigation of many diseases. It is in this manner that we must proceed to detect the lesions which affect not only the complex tissues which form the different organs of the body, but also the elementary tissues and the ultimate living molecules which concur in the structure of the solids.

To establish this molecular pathological anatomy, so to speak, we must avail ourselves of the aid of the microscope, and of all the various means of analysis which physical and chemical science furnish us with.

In short, modern humorism is an offspring of modern pathological anatomy; for is it not apparent that, if we prosecute our researches into the composition of morbid structures more and more profoundly, we are necessarily led to appreciate those minute changes in the condition of the fluids as well as of the solids of the body—the examination of which is the very basis on which the new humoral doctrine is founded."

M. Andral closes his observations with these valuable remarks:

"To derive any important benefits from the study of the new doctrine, to which we have alluded, it is absolutely necessary that it be cultivated by men who do not profess to be exclusive advocates either of humorism or of solidism, and who are satisfied to advance with slow but sure steps in the path of experimental enquiry. It belongs to the professor of general pathology to enter upon and follow out this difficult career. In truth, general pathology is the true arena, where the great questions respecting all morbid changes in the system should be brought forward and canvassed. It is to it that we must look for the filling up of the gaps in science, by summoning to its aid every new means of research, and by pointing out the proper direction in which these should be employed. In general pathology we expect to find at once the inventory of the actual state of science, the evocation of its past career, and the preparation for its future condition: such is the task of the professor who understands the duty required of him. It does not consist, as has been too long imagined, in the mere study of the symptoms, the signs, and the causes of diseases, &c. those generalities which have not even the advantage of embracing all the curious facts of which internal pathology is composed."—*Gazette Medicale*.

DR. MANDL ON THE CHEMICAL ANALYSIS OF THE BLOOD IN A PATHOLOGICAL STATE.

Dr. Mandl has contributed three very elaborate papers to the Archives de Medicine, for the latter months of last year, on this very difficult but very important and interesting subject.

The first is occupied with a review of the numerous, and from their discordance often bewildering, statements of different chemists and physiologists as to the

composition and the relative qualities of the most obvious constituents of the blood—the fibrine, the globules and the serum. There is still much contrariety of opinion on this subject, and we are far from having arrived at any recognised exactitude of knowledge. Perhaps the very attempts, which have been made of late years since chemistry has made so much progress, to obtain too minute analyses of the animal fluids, has retarded and impeded our progress in our physiological acquaintance with them, alike in a healthy and a morbid condition. To be a useful animal chemist, the experimenter must be a practical physician at the same time ; and we cannot expect to obtain any important results, unless the various changes, which are induced on the fluids by disease, are attentively examined and duly appreciated at the bed side of the patient, as well as afterwards in the laboratory. To select one out of many proofs that *mere* chemistry can do but little for humoral pathology, we may allude to the circumstance of the two principles, albumen and fibrine, being recognised to consist of the same chemical elements in nearly the same proportions, while at the same time every one knows how different are the phenomena which they exhibit in the chemistry of the living body. And if we wished to shew the discrepancy of authors on the relative proportions of the different elements of the blood during health, we have only to mention that, according to Lecanu, there are about three parts of fibrine in 1000 parts, whereas Berzelius estimates the proportion at less than one part, Fourcroy as varying from 1 to 4, Davy as $1\frac{1}{2}$, Nasse as $3\frac{1}{2}$, Müller at nearly 5 (in the blood of the ox), and MM. Andral and Gavarret at 3. Well therefore may Professor Giacomini assert in a recent paper (v. Gazette des Hôpitaux, No. 20, 1840) that “ if we compare the numerous tables on the composition of the blood published in works on chemistry, we do not find two that are not at variance.”

If from the chemical analysis we proceed to physiological interpretation of that most common phenomenon, the coagulation of the blood, we find as much discordancy of opinion as on the relative proportion of the fibrine. Some have attributed it altogether to the blood being at rest, and have therefore ascribed its fluidity to the circumstance of it being constantly in motion during life. But how then shall we explain the fact of the entire mass remaining perfectly fluid within the vessels in some cases of sudden death, and of the contents of a vein or artery in any intermediate portion of the tube between two ligatures, and thus kept in a state of complete repose, not becoming coagulated !

Others have sought for a reason of the phenomenon in the refrigeration of the blood when it is drawn from the body. But numerous experiments have shewn that this idea is quite untenable ; seeing that the process actually goes on more quickly if the temperature of the blood is kept to the heat of the living body, and that, on the other hand, it is considerably retarded if the temperature is much reduced. Hewson has even proved that the blood after being frozen and again thawed will coagulate, as usual, into a solid and a fluid portion.

Then as to the influence of the atmosphere on the process of coagulation, various experiments have been at different times made to ascertain the effects of withdrawing its pressure, by introducing a vessel full of fresh-drawn blood under the bell of an air-pump ; but hitherto no satisfactory conclusions have been drawn from these experiments ; different results having been obtained by different men.

Then again, it has been supposed by some that the coagulation of the blood out of the body is somehow connected with, if not dependent upon, the disengagement of gaseous elements from its mass. Home and Scudamore have, for example, attached much importance to the escape of carbonic acid ; but Dr. Davy has subsequently denied its influence altogether ; and indeed might we not well ask, how does the blood not every moment coagulate in the lungs, seeing that there is a constant evolution of this very gas during respiration ?

Dr. Mandl sums up his observations on this subject in these words : “ What then up to the present moment is the result of all the chemical experiments which have been made to explain the coagulation of the blood ? None, absolutely none.

How are we to account for the blood, contained in the jugular vein of a dog, or rabbit, remaining liquid for some hours in a portion of the vessel which has been separated from the rest by means of two ligatures, and subsequently removed from the body of the animal ? The coagulation is retarded under such circumstances by cold. But, when the vein is opened, the blood coagulates in the course of two or three minutes. Now how are we to explain these phenomena ? We must confess that we are utterly unable to do so. This experiment is quite conclusive against the idea that coagulation is owing to the blood being at rest, as well as against that which attributes it to the influence of refrigeration."

Dr. Mandl subsequently alludes to the influence of certain chemical substances, when mixed with fresh-drawn blood, in retarding the process of coagulation. These substances either precipitate the albumen and fibrine in the form of molecules which do not afterwards coalesce, or they hold these elements in chemical solution. For example, by means of sulphuric acid we may obtain a solution of blood ; but we have no right to say that under such circumstances we have prevented the coagulation of the fibrine.

With one short extract, which seems to us to suggest a useful distinction, we shall close our remarks on this subject. . . . "In studying the phenomena of the coagulation of the blood," says Dr. Mandl, "we ought to distinguish two moments or circumstances which are very different from each other :—the first is the solidification or precipitation of the dissolved fibrine ; and the second is the contraction of this fibrine newly solidified. This contraction of the fibrine may take place in three or four minutes, or it may require several hours, according to the refrigeration, the evaporation, the force of the jet, the greater or less quantity of the blood drawn, the external temperature, the humidity of the air, &c. &c. Now, authors have always confounded this second moment, the contraction, with the first moment, the precipitation ; and yet these two phenomena are as distinct from each other, as the precipitation of a salt and its crystallisation. When Hunter wished to explain the process of coagulation by attributing it to the contraction which is observed to take place in the fibrine as in muscular tissue, he used to say—this *must* contract, because it *does* contract ; he thought only of the second act or moment of the process." We proceed now to offer some remarks

On the Formation of the Buffy Coat.

Without entering at all upon the disputes of different chemists as to the nature of the buffy coat, we may merely state that, for all practical purposes, it may be admitted that it is part of the fibrine, held in solution in the blood, and deposited free from any admixture of red globules. The simple and beautiful experiment of Hewson proves this very distinctly ; by removing with a spoon the upper colourless layer of the blood, he observed that the buffy coat is quickly formed in this decanted serum.

If we now enquire, what is the cause of this deposition of part of the pure fibrine of the blood on the surface of the clot, in certain forms of disease, a great number of the most estimable authors will at once answer, "a greater than usually slowness in the act of coagulation." But another set of authors, whose names are entitled to as much credit, assert the very contrary, and distinctly maintain that this process actually goes on more quickly than usual, when the buffy coat is formed. For example, Andral and Forget, in their recent memoirs, state ; "the separation of the blood into its solid and fluid portions takes place rapidly in plethora and in inflammatory diseases, as daily observation testifies."

We cannot, therefore, assent to the opinion that the formation of the buffy coat is owing to a retardation in the process of coagulation. Neither can we ascribe it, as some have done, to a mere excess in the quantity of the fibrine existent in the blood ; for it has been amply shewn by several writers that not unfrequently the blood contains an unusual quantity of this constituent, and yet no buffy coat is formed on its surface.

M. Magendie, in his recent work on the physical phenomena of life, endeavors to explain the difficulty by ascribing the buffy coat to "one of the most simple and best understood physical phenomena, the relative gravity of the globules and of the fibrine; the former having a greater specific gravity than the latter tend to fall to the bottom of the mass, and thus the fibrine collects, more or less exempt from them, at the surface."

This explanation may be correct; but certainly the premises on which it is founded have not been proved. We do not for example know for a certainty that there is any alteration in the specific gravities of the fibrine and of the globules; and we should also remember that it is part only of the fibrine that collects at the surface, while another part sinks down, and entangles in its meshes the globules.

M. Mandl proceeds to expound his own views on this question. The following extract will enable our readers to understand the scope of his researches.

..... "Every one is agreed in admitting that in the formation of the buffy coat the red globules are precipitated before the fibrine is coagulated. Now on what does the formation of this buffy coat depend? we answer on all those circumstances which tend to favour this precipitation of the globules before the coagulation of the fibrine. Among these circumstances we may first mention the specific gravity of the serum. Whatever renders the serum lighter than usual, may give rise to the formation of the buffy coat, since the globules are then precipitated more quickly than usual. Again the blood and the serum, when cooled, are more dense and heavy than when they are warmed; and therefore, whatever tends to keep the blood either warm or to cause it to cool will have the effect of on the one hand favouring, and on the other hand of retarding, the formation of the buffy coat. By attending to these circumstances we can explain the results of numerous experiments which we find recorded in the writings of various authors, but which are otherwise not easily intelligible. The small interrupted stream from a small opening in a vein, the vessel into which the blood is received being shallow, cool, and held at a distance from the arm, a cool state of the atmosphere, &c. &c., are so many circumstances which are unfavourable to the *franche* formation of the buffy coat."

In illustration of his views Dr. Mandl states, that from various experiments we have reason to believe that the specific gravity of the blood in inflammatory diseases is, in spite of a greater quantity of fibrine contained in it than usual, somewhat lower than in health. He appeals to the writings of Thackrah, Scudamore, Babington, and Davy, in proof of this assertion. Nasse also, of Bonn, in his recent work—*Ueber das Blut*, 1836—distinctly states that the buffy coat is stronger in proportion as the specific gravity of the blood is less, and that it forms with much greater difficulty on blood that is very dense.

If it be now asked, to what is this diminution of the gravity of the blood in inflammatory diseases owing, M. Denis (*Etudes Chimiques sur le Sang*) tells us that there is, under such circumstances, a deficiency of the usual quantity of the albumen and of the saline matters dissolved in the serum. This statement has not, however, been confirmed by the subsequent researches of MM. Andral and Gavarret, nor by those of M. Lecanu.

It is not improbable that the specific gravity of the globules themselves may vary a good deal under different circumstances; but as yet we have no satisfactory data on this subject.

Of Blood deficient in Fibrine.

In not a few diseases is the blood found in what has been called a dissolved state, more than usually liquid, its coagulum being soft and imperfectly formed, and its watery portion more than usually abundant. Such is the case in almost all malignant fevers, in scurvy, in purpura, &c. &c.

Let us consider the state of the blood in scurvy for a few minutes. It is ad-

mitted by all authors who have seen much of this disease, that there is not only a marked deficiency of its fibrine, but also a very considerable increase of the alkaline salts of the blood. Now what is the effect of these salts on the coagulation of healthy blood?—to retard, or even to prevent the process altogether. Dr. Mandl seems to think that we are not to infer, from this condition of the blood, that there is necessarily any considerable diminution in its normal proportion of fibrine, but only that this element is held in solution in such a manner that it is not easily precipitated from the other elements of the mass.

Our information is as yet very defective as to the existing proportions of the saline matters of the blood in those other diseases where the blood is known to be more than usually thin and diffuent. It is worthy of notice that the commixture of putrid animal matters with healthy blood has nearly the same effect upon it as the addition of a quantity of an alkaline salt—viz. to impede the coagulation and to cause the mass to remain more fluid and dissolved. Whether the blood becomes actually impregnated with any miasmatic particles in typhus and other malignant fevers is not easily determined; but certainly there is nothing improbable in the supposition.

“We regret,” says Dr. Mandl, “that we do not possess more complete analyses of the blood in typhoid fever. Is the fibrine actually diminished in quantity? and is the proportion of the saline ingredients, or of the albumen, which in our opinion produces analogous effects, at all increased? As yet we do not accurately know; but it may be readily understood, from what we have previously stated, that we must be on our guard in at once concluding that there must necessarily be a diminution of the actual quantity of the fibrine merely from the amount of it obtainable from the coagulum. M. Denis positively attributes the defect of coagulability and the other differences of the blood in typhoid fever to an augmentation of its saline ingredients.”

Dr. Mandl next alludes to the alleged changes of the globules of the blood in disease.

“We shall now,” says he, “enquire how far circumstances may influence the proportion or relative quantity of the globules in our examinations of the blood, and shall allude more particularly to that condition of the blood, where the coagulum is found to be more than usually soft and unadherent, because it is precisely in such a case that experimenters have discovered an abnormal proportion of the globules.

To determine the proportion of the globules in any quantity of blood, we divide it into two parts; in one of which we ascertain the quantity of the fibrine by stirring it briskly with a bunch of rods, and then deduct the weight of the fibrine so obtained from the weight of the coagulum, in the other portion of blood previously dried. Now, the fibrine being often unusually soft, it will be found to be very difficult to separate it completely; and hence the proportion of the globules will often be estimated as considerably higher than is normal, in consequence of a portion of the fibrine remaining in union with them.

Again, we have previously seen that a firm and well-contracted coagulum contains a large proportion of globules, and that, as a certain quantity of them escape our analysis, the exact amount of this proportion is apt to be understated. On the contrary, in a coagulum which is soft and does not retain its globules so firmly, the proportion of these globules is apt to be estimated too highly. It results from our observations that the more quickly that the fibrine coagulates, the less will be the quantity of it (the fibrine) that is found united or associated with the globules; and, on the contrary, the more slowly that the fibrine coagulates, the larger will be the quantity of it that is found with the globules. In other words, the relative proportion of the globules will be diminished in the first instance, and increased in the second. Now the presence of saline matters, which retard the coagulation of the blood, must produce on the one hand a soft coagulum, and on the other hand, an apparent increase in the proportion of the globules.”

MM. Andral and Gavarret have, in their recent memoirs on the changes of the blood in various diseases, characterised the second class in their humoral nosology, as that in which the proportion of the fibrine of the blood is often diminished while that of the globules is often increased. In this class they have arranged all the tribe of continued fevers upon what we consider to be very insufficient information. For other observers, as Dr. Reid Clanny and Dr. Jennings, have expressly stated that, according to their researches, there is a notable diminution in the proportion of the globules of the blood in these very diseases. The question therefore still remains undecided. Indeed much, very much, requires to be done before we can assure ourselves of having arrived at any exact conclusions on many of the apparently most simple questions connected with the physiological and pathological conditions of the blood."—*Archives Generales de Medicine*.

INFLUENCE OF THE SPECIFIC DENSITY OF THE BLOOD ON THE FORMATION OF THE BUFFY COAT.

During the last and the present year, much attention has been paid by several French physiologists to the various circumstances which influence the formation of the buffy coat on the blood; and as a new humoral pathology, so to speak, is gradually establishing itself in medical literature, it is necessary to be aware of the various discoveries, real or imaginary, of those who engage in the analysis of the animal fluids. The name of M. Donné is well known to all who take an interest in such pursuits. He has already done much in the field of microscopic enquiry applied to the investigation of the texture and composition of many parts of the body, both in disease and in health, and he still pursues his researches with all the ardour of a genuine lover of science. At the beginning of the present year he read a paper before the Academy of Sciences on the coagulation of the blood. His main object was to point out the conditions of this fluid, which favor the formation of what is called the buffy coat on its surface. Whenever the red globules are deposited more quickly than the fibrine, this phenomenon is induced. Now this may arise from two causes—either a more than usually slow coagulation of the blood, or a state of inferior specific gravity of this fluid. The former of these states has been long known and attended to: whereas the influence of the latter has hitherto been scarcely ever noticed. Now the latter condition—that of diminished specific gravity—is generally produced by previous loss of blood; and hence it is usually observed after venesections have been practiced to any considerable amount. The mass of the blood having become less tenacious and viscid, its red globules precipitate themselves with greater rapidity than usual; and thus there is a tendency to the formation of a superposed stratum of fibrine on the surface. It is from having omitted to take these circumstances into account, that hitherto medical men have been puzzled to explain the formation of the buffy coat in certain cases, more especially in acute rheumatism, at the second or third bleedings, when the blood drawn at first had not exhibited any appearances of it. The cause of this is, that the blood had been at first too dense and tenacious to allow the easy deposition of the red globules; but so soon as it rendered somewhat thinner by venesection and the use of other antiphlogistic remedies, than the globules subsided more quickly and the fibrine was thereby permitted to collect on the surface of the coagulum.

M. RACIBORSKI'S CRITICAL REMARKS ON AUSCULTATION.

M. Raciborski, a most intelligent physician resident, we believe, in Paris, seems

to have discovered (!) that, in spite of the many works published on this subject and all the confident assurances of professed stethoscopists as to the almost infallible accuracy of auscultatory diagnosis, a vast deal of error and of uncertainty still prevail. Much of this error and uncertainty he attributes to the attempts made by so many writers to reduce the phenomena of auscultation to the unvarying accuracy of an exact science, by boldly announcing that the existence of certain of these phenomena most indubitably demonstrates the existence of certain states.

"Scarcely," says he, "had *Laennec* taught us to distinguish some *rales* in the pathological states of the respiratory organs, and scarcely had we began to make ourselves acquainted with the relations of some of these *rales* with the diseases in question, than every new sound was regarded as a pathognomonic sign of a disease, and we are told that every affection of the lungs must have its particular sound, the existence of which alone, and by itself, was sufficient to indicate the presence of the particular morbid state. Hence has arisen the tendency to a continual augmentation of the auscultatory *bruits*. In the impossibility to increase the catalogue of the diseases of the lungs, each of which had received from *Laennec* a particular sound, it has been the custom of late years to divide each disease into several stages, awarding to each of these stages its (alleged) characteristic *rale*.

Thus we hear not only of *cavernous* but also of *cavernulous*, and not only of *crepitant* but also of *sub-crepitant rales*."

There is much truth in the following remarks on the *ultra-ism* of many professed stethoscopists.

"The great error which has been too often committed has arisen from the attempt to attach a too exclusive importance to the phenomena of auscultation, and from regarding it as a science of sounds, each of which is presumed to indicate a particular morbid state. Now we have no hesitation in boldly affirming that there is scarcely a single *rale* which has a determined and invariable value, and that it is almost impossible to predict from the mere existence of any one *rale* the name of the disease to which it corresponds. For example, I defy the most experienced auscultator to distinguish, with his eyes closed, and without putting any questions to the patient or his friends, the greater number of cases of incipient tubercles from pneumonia in the first degree, or from œdema of the lungs, from hæmoptysis, or even from pulmonary emphysema (!) Again the sibilant *rale*, or the bass-string *rale* does not indicate the existence of pulmonary hepatisation more than it does that of pleuritic effusion; and even the gurgling *rale*, which is usually regarded as a pathognomonic sign of tuberculous evacuations, may be heard where there is no other morbid change but a mere dilatation of the bronchi; and lastly, the metallic tinkling is known to be present in cases of effusion into the pleura, as well as in those of pulmonary excavations."

M. Raciborski examines the separate *rales*, described by *Laennec* and others, commenting on their value as he goes along.

As to the *crepitant rales*, which is so generally admitted as characteristic of the first stage of pneumonia, he says that not only is this sound heard in other diseases, as in bronchitis and tubercles, as well as in inflammation of the lungs, but also that at the commencement of this very disease we not unfrequently discover a *sub-crepitant rale*—alleged to appertain almost exclusively to bronchitis or to pulmonary œdema—or even a *mucous* one.

He does not wish, he says, to undervalue the importance of auscultation, but only to caution his readers against the exaggerated statements of its value by its over-enthusiastic disciples, and to impress upon them the necessity of, in all cases, associating its results with those derived from other means of diagnosis. One, certainly, of the most valuable of these means is percussion—which, when skillfully performed, will often tend to correct certain mistakes that are apt to be made if we trust too much to mere auscultatory phenomena, and on the other hand, will

greatly confirm the value, when their results happen to coincide, that we are to attach to these phenomena.

We cannot, as a matter of course, follow M. Raciborski in his very judicious examination of the signs furnished by percussion for the diagnosis of chest complaints, and must limit ourselves to the selection of a few extracts.

How to distinguish pulmonary hepatisation from effusion into the pleura.

"When the dullness of sound occupies the lower part of the chest, it is more difficult to determine at first, if this be owing to compression of the lung from effusion, or to an induration of the pulmonary tissue. In the majority of cases, however, we have only to attend to the *expression of the disease*, to be able to discriminate these two morbid states. The absence of expectoration in the former case will very often suffice to determine this point; and, if this will not do, there are other circumstances which will much assist our diagnosis. Thus in pleurisy the degree of dyspnœa is rarely in proportion to the extent over which the dullness on percussion is perceived; we often meet with cases where there is very considerable pleuritic effusion, although the respiration is by no means much distressed; whereas, in pneumonia, the degree of the dyspnœa is usually greater than the extent of the dullness might lead us to anticipate. Again, when the pleuritic effusion is considerable, there is usually a perceptible enlargement or expansion of the affected side; and if the hand be applied to the side while the patient speaks, the vibrations of the voice are scarcely, or not at all, perceptible."

M. Raciborski dwells with much emphasis on the value of the dullness on percussion over the upper part of the chest, in a patient who has had a cough for some time, as a symptom of tubercular induration.

... "As this dullness does not depend so much on the presence of the tubercles themselves, as on the secondary alterations of the pulmonic tissue occasioned by them, we cannot be surprised that we meet with the symptom occasionally at the very commencement of the tuberculous deposit, when neither the presumed number nor the volume of the tubercles might lead us to expect it. Thus the dull sound perceived over the apex of the lungs may indicate the presence of tubercles in a person who has had a cough only for a week or two—provided there be no reason to suspect at the time a pneumonia. On more than one occasion we have been able to detect the existence of a tuberculous affection in the course of measles, although the patients had had no cough before the invasion of the exanthem."

M. Raciborski very strongly recommends that in all suspected cases we should employ percussion, not only of the subclavicular regions but of the clavicles themselves. It is the very apex of the lungs that is usually the early seat of tubercles; and hence it is important to examine the chest as high up as possible.

He closes his remarks on percussion in the following words:—

"The study of percussion being incomparably more easy than that of auscultation, our readers will readily understand our motives in first alluding to it. As it is often quite sufficient by itself for the diagnosis of many thoracic diseases, we should always commence the examination of our patients with ascertaining the results afforded by it, before proceeding to the auscultation of the chest."

We proceed now to notice some auscultatory phenomena.

The Expiratory Bruit or Murmur.

"The *bruit* of inspiration is in health always longer and stronger and therefore more audible than the *bruit* of expiration—this latter being occasionally not all recognisable.

Whenever the pulmonary parenchyma becomes more or less impermeable to the air, the expiratory *bruit* becomes more lengthened and acquires more of the character of the inspiratory one; sometimes indeed it exceeds the latter both in strength and in duration, when the pathological condition of the lungs is very extensive or considerable.

Now whether this impermeability be occasioned by induration of the pulmonary tissue, or by compression of it from fluid effused into the pleura, the expiratory murmur is found to be prolonged, so as either to equal or even to exceed the duration of the inspiratory murmur.

.... It follows from our researches, that the prolongation of the expiratory murmur is one of the most constant characters of a tuberculous affection of the lungs—at least when the morbid deposit has already excited those consecutive alterations of the pulmonic tissue, which tend to render it more or less impermeable to the air. Whatever tends to indurate and solidify this tissue, will be found to cause the expiratory murmur to be more *prononcée*. Hence this auscultatory phenomenon is always associated with a dullness on percussion over the affected part of the lungs.

The expiratory sound is usually very much prolonged when the bronchial *souffle*, or blowing sound, is heard."

M. Raciborski proceeds to comment on the different abnormal respiratory sounds, or *rales* as they have been called, which have been described by authors. He condemns the fashion of subdividing and multiplying these, which has been so zealously pursued by some.

For instance, M. Fournet, in his recent work, has described no fewer than five different varieties of the vesicular *rale*, according as it is modified in active congestion of the lungs, in pulmonary oedema, in acute capillary bronchitis, in pneumonia, and, lastly, in relapse of pneumonia. Now what good can such perplexing minuteness do, either to diagnosis or to treatment? Assuredly none. All *rales* may be conveniently arranged into two heads, according as they are produced by the formation of *bullæ* in the bronchi or pulmonary vesicles, or by the vibration of these structures, in consequence of a contraction of their usual dimensions. Hence there are two leading kinds of *rales*—the bullar and the vibratory *. Perhaps we should add to these, the *metallic tinkling sound*, in consequence of the characters which are peculiar to it alone. These three kinds of sound are all that need be attended to in the diagnosis of the diseases of the respiratory organs.

The Bullar Rale.

The varieties of this sound are very numerous, according to the size of the bronchi chiefly affected, the viscosity of the fluid secreted, the force of the inspired air, &c. Some varieties are much more *dry* and crackling than others; but all arise from the formation of bubbles caused by the displacement of a liquid.

.... "The dry or moist tone, which often distinguishes the varieties of the bullar rale, is only a secondary character, and is dependent on the degree of viscosity of the bronchial secretion. The more viscid that the secretion is, the drier is the sound produced, so that the large gurgling bubbles may give rise to a sound that is quite like the crackling of a piece of folded parchment. But however the dry sound may be, provided it has not a vibrating character, we may be assured that it arises from the formation of bullæ in the air passages."

The diagnosis of the various diseases, in which the different kinds of bullar *rale* are perceptible, is to be determined by the presence or absence of various collateral symptoms and conditions—such as the duration of the disease, the existence or not of pain in any part, the dullness or not on percussion over the part where the bullar *rale* is heard, the character of the sputa, &c.

M. Raciborski confesses that it is sometimes extremely difficult, if not impossible, to discriminate, by any auscultatory symptoms, pneumonia from capillary bronchitis. Perhaps the best way is to ascertain the extent over which the bullar *rale* is heard: where this is limited the disease is most probably pneumonia; and

*The division of the *rales*, described by M. Beau in his late ingenious papers, is exactly the same—vide the last No. of the *Medico Chirurgical Review*, p. 490.

on the contrary, where it is heard over a considerable extent, and still more if it be heard on both sides of the chest, we may pronounce the case to be one of bronchitis. Percussion, it must be confessed, will not much assist our diagnosis under such circumstances.

It is, however, in *chronic*, rather than in *acute*, diseases of the chest, that the existence of the *bullar rale* is valuable as a diagnostic symptom; and just because the *rational* symptoms of the existing disease are apt to be obscurely marked.

The chief chronic affections of the lungs, in which this *rale* is usually present, are tubercles, chronic bronchitis, emphysema, and œdema of the pulmonary tissue.

We have already, when alluding to percussion, pointed out the importance of attending to the part of the lungs where an abnormal sound is detected. This remark is equally applicable to the study of auscultation. If the *bullar rale* is heard over the upper part of one or both lungs, in a person who has had a cough for a considerable time, we have great reason to suspect the existence of tubercles*; and if to this symptom be added dullness on percussion of the clavicular region, the suspicion amounts almost to assurance.

In chronic bronchitis, on the other hand, the seat of the *rale* is usually towards the base of one or more frequently of both lungs, and moreover the resonance of the chest on percussion is, in this disease, little if at all impaired.

In emphysema of the lungs, also, the *bullar rale* is usually heard towards their bases; and the resonance of the chest on percussion is greater than in health.

In œdema of the lungs, on the other hand, the sound on percussion is generally more or less dull over a considerable extent; but the auscultatory symptoms are nearly the same as those heard in chronic bronchitis, and we are led to suspect the œdematous state of the respiratory organs chiefly from the co-existence of watery effusion in other parts, as in the limbs, abdomen, &c.

The Vibratory Rale.

Under this general term, M. Raciborski comprehends the *sonorous*, the *sibilant*, the *snoring*, the *booming*, the *cooing*, the *chirping*, and the *rubbing rales* of Laennec and other authors. They have all the common character of communicating a vibratory or tremulous sensation to the hand applied to the parietes of that part of the chest where they are heard, and of not conveying the idea of the bursting of bubbles of air in a fluid.

"If," says our author, "it has been easy to prove that the *bullar rale* has but little value as a means of diagnosis, when regarded by itself and apart from other symptoms, it will not be difficult to show that the *vibratory rale*, viewed in the same manner, is of even less value and less practical importance. As to the cause or *rationale* of this *rale*, if we except one variety—that which depends on the rubbing of false membranes on the surface of the pleuræ—we may say that all its forms or shades are caused by the vibrations of the air in the trachea or bronchi. In most cases these vibrations are owing to the flapping backwards and forwards

* M. Raciborski very truly remarks: "When the tuberculous affection is incipient, the bubbles of the *bullar rale* are very small, and not readily discovered on a superficial auscultation. We should never fail to make the patient cough occasionally, and attentively examine the upper part of the chest during and after the efforts of coughing. Sometimes it is only after repeated efforts, that we can detect the existence of the *bullar rale*, the sound of which is much like to that caused by pressing the saliva against the teeth, when the lips are closed."

He strongly urges the importance of ausculting the supra-clavicular, as well as the sub-clavicular regions, in all doubtful cases, assuring us that on several occasions he has detected the existence of tubercles by discovering a *bullar rale* in the former, while none was audible in the latter region.

of a small portion of viscid matter attached to some part or parts of the air-tubes. But whether this viscid matter be of the nature of mucus, or pus, or blood, or softened tubercle, we cannot determine from the sound emitted. The *râle* indicates nothing more than the existence of a certain morbid process in the bronchi; it is only by attention to the development and progress of the disease, and by other concomitant symptoms, including those discovered on percussion, as well as by the absence or presence of the *bullar râle*, that we can hope to ascertain its true nature."

The following remarks on the *retrograde resonance* of an abnormal sound along the bronchial tubes will remind our readers of the views of M. Beau on many of the phenomena of auscultation—*vide* the last two numbers of the Medico-Chirurgical Review, Foreign Periscope.

"A portion of mucus," he says, "attached to the superior part of one of the principal bronchi, may give rise to vibrations which will be perceived over the entire extent of the chest, below as well as above the seat of attachment. In such a case, not only can we not distinguish the locality of the disease, but we are often puzzled to conjecture its very nature."

The Metallic Tinkling Sound.

"This sound is a variety of the vibratory *râle*, and consists in sonorous vibrations, which resemble the last tones of a bell, or the sound produced by a fly, which, when buzzing to and fro in a porcelain vessel, causes the side of the vessel to vibrate. Similar vibrations may be produced by the inspired air, after having traversed a pulmonary fistula, entering the cavity of the pleura,—which (the cavity) is enlarged by the subsidence or recession of the lung in consequence of the greater or less quantity of fluid which may happen to have become effused.

The greater the force with which the air penetrates into the pleural cavity, the more distinct will be the *metallic tinkling*: hence it is generally stronger during the act of coughing, or when the patient speaks. The distinctness of this sound will be still more increased, if, instead of being caused by the mere admission of the air, it results from the resonance of another auscultatory sound which has a metallic character, and which is induced by the concussion of the molecules of a liquid against each other, as will often take place during the shaking of the chest by fits of coughing in cases of pleuritic effusion, or of immense vomicae partially filled with fluid, or when we practise auscultation immediately upon the patient raising himself from the horizontal position."

From these remarks it appears that M. Raciborski groups together the *amphoric respiration* of Laennec with the sound which we are at present considering—the principal character of both consisting, he says, in a silvery or metallic resonance. Now this *resonance* is found to accompany the sounds produced either by the entrance of the respired air into a cavity of the pleura, or by the gentle succussion of the surface of an effused fluid, or by the fall of a drop of the fluid from the upper part of the cavity upon the fluid below. Hence the sound of the metallic tinkling appertains almost exclusively to hydro-pneumo-thorax, and to extensive tuberculous excavations.

M. Raciborski does not attach much importance to the auscultatory signs furnished by the voice—as bronchophony, pectoriloquy, and ægophony—unless they are in accordance with the results obtained by percussion and by auscultation of the breathing. He utterly rejects the idea of admitting the recently proposed auscultatory phenomenon, which has been termed *autophony*, and which consists in the (alleged) modification in the tone of the auscultator's own voice reverberated from the patient's chest. He adduces the testimony of M. Bouillaud, and of MM. Barth and Roger in confirmation of his estimate of its utter valuelessness. He closes his memoir by expressing his hope that he has succeeded in shewing that "the sounds of auscultation are far from having an equal importance in practice, and also that the most important of these sounds may be limited to a

small number, which are easily recognised and distinguished from each other for all the purposes of useful diagnosis."—*L'Experience*, Nos. 176 and 177.

M. PIORRY ON THE DOUBLE TIC-TAC SOUND IN THE AORTA.

It is almost unnecessary to remind our readers that the name of M. Piorry is, more than that of any other writer, associated with the history of percussion, as applied to the discrimination of internal diseases. Within the last few months he has written an elaborate memoir, to prove that the dimensions not only of the aorta, in its ascending portion and its arch, but even of the pulmonary artery, may be most accurately determined by *plessimetric* measurements! How far other physicians will be made converts to his statements, and will be willing to admit their practical importance, remains to be seen:—for ourselves, we must confess that we have no great faith in the value of those attempts, however ingenious, to detect all the minute shades of alleged difference in auscultatory phenomena. If we are to believe M. Piorry, there is little difficulty in tracing out on the walls of the thorax the *exact* position of the different parts of the heart, and of the great vessels which issue from it, and consequently in detecting any enlargement of their volume by means of percussion alone. We much fear that but few medical men can ever hope to acquire such delicacy of perception, whether of hearing or of touch, to draw any practical utility from our author's instructions.

Passing over, therefore, the rules which he gives for his *plessimetric* investigations, we wish to draw our readers' attention to some remarks which he makes on the tic-tac or double sound perceived over the aorta.

..... "It follows as the result of a large majority of my observations, that the sounds perceived on auscultation over the aorta and the pulmonary artery are double, and not single, as supposed by Laennec. At first I enquired if the second sound or period of the tic-tac, observed in the large vessels which issue from the base of the heart, might not be produced in the pulmonary artery, while the first sound is produced in the aorta. But as I found the double beat over the aorta considerably above the point where it is separated from the pulmonary artery I am now of opinion that we must admit that it is the seat of both sounds. However this may be, the fact is certain that in the majority of cases a double sound may be heard over the ascending portion of the arch of the aorta, and that very rarely indeed is one sound only audible. Now where is the point at which this double or tic-tac sound ceases to be heard along the course of the aorta? For we certainly know that in the abdominal portion of the vessel we no longer perceive any double beats, and that in aneurysms of the descending aorta, which are accessible from behind to accurate investigation, we never hear any double beats, except when the tumor is in contact with the heart.".....

We are certainly not satisfied from these statements of M. Piorry that there is any double sound from the aorta, unless what may be transmitted along it from the heart; and some of his own remarks appear to us in favour of this opinion. For example, he says: "several of the facts, which we have recorded, concur to shew the sounds of the heart extend along the aorta. Thus in the 29th and 30th cases, a *bruit de souffle* was found to be propagated for some distance over where the *plessimetry* had shewn the arch of the vessel to be situated. Nothing similar is heard in pericarditis; the sounds in this disease being perceptible only over the spot from which they proceed."

M. Piorry alludes to the possibility of distinguishing a contraction of the orifice of the pulmonary artery from one of that of the aorta, by the greater limitation or restriction of the abnormal sound in the one case, and by its extension along the arch of the aorta in the other. This may probably be quite true, but how often will the distinction be appreciable?—that is the question for the practical physician.—*Archives Generales*.

ON THE TREATMENT OF HÆMOPTYSIS WITH TARTRATE OF ANTIMONY.

It might at first be presumed that the Tartrate of Antimony, in consequence of its vomitive action, should rather aggravate than arrest the spitting of blood from the lungs ; but, from the observations of Stoll, it appears that this is really not the case. The following instance, among many others, related by the illustrious physician of Vienna, is well worthy of notice.

"I remember," says he, "to have had under my care a young Turk who had been seized with bilious fever and with profuse hæmoptysis. I immediately ordered him a vomit. The attendants were frightened at the prescription, and most anxiously awaited the effects of the medicine ; being afraid that the hæmorrhage would be greatly increased by the effects of vomiting. But, no sooner had the patient rejected a large quantity of bile from his stomach than all traces of the hæmorrhage ceased, and he recovered without any return of it."

After citing numerous similar cases, Stoll remarks :—" *Vomentes ne guttam sanguinis rejecerunt, quasi, ipsa emesis hiantia pulmonum vase quovis auxilio, citius atque efficacius stringeret ; et, vomitu jam peracto, aut nihil omnino sanguinis, aut ejus nonnisi paucum quid per intervalla et ad exiguum tempus comparuit.*"

It should be stated that Stoll seems to have employed this mode of treatment only in cases of hæmoptysis accompanied with bilious symptoms, and seldom in those where there was any marked predisposition to pulmonary consumption.

Several writers subsequently have adopted the emetic treatment of hæmoptysis and very different results seem to have been obtained in the hands of different physicians ; for, while some strongly approve of it, others as energetically condemn it. As a general remark, we may state that ipecacuan has usually been preferred as an emetic in cases of pulmonary hæmorrhage to any of the preparations of antimony ; the former drug being supposed to possess a peculiar astringent property on the vessels of the lungs.

M. Nonat, one of the physicians of the Hôtel Dieu at Paris, however, has of late been using the tartrate of antimony in numerous cases of the disease, and reports most favorably of its effects. He has used it not only when the stomach and liver were evidently at fault at the same time, but also in many instances where there was no disturbance of the digestive organs, and where therefore, the only indication was to arrest the discharge of blood from the chest.

Case.—A man, 30 years of age, was admitted into the Hôtel Dieu on the third day of an attack of hæmoptysis, which had resisted bleeding from the arm and the use of other remedial means ; it was the first attack of the disease which he had ever experienced.

The symptoms on his admission were well marked ; frequent cough, with the expectoration of frothy sanguineous sputa ; mucous and sub crepitant *râle* over the summit of the right lung (percussion gave a dull sound at this spot) ; sense of heat in the chest, and dyspnœa ; pulse frequent and rather strong. There were also symptoms of considerable gastric disturbance, such as a coated tongue, bitter taste in the mouth, nausea, &c.

An emetic of tartrate of antimony was ordered ; the stomach symptoms were quickly relieved, and the spitting of the blood entirely ceased.

The *second* case is very similar, and the *third* one was still more severe.

A middle-aged woman was seized with a second attack of hæmoptysis, which had already continued for four days before M. Nonat saw her. The previous attack had occurred two years before, and had lasted for nine days, before the hæmorrhage entirely ceased. An antimonial emetic was at once ordered her ; it caused her to vomit three or four times freely ; at the expiry of a few hours the sputa ceased to exhibit any trace of blood ; and, from this time, they were nearly colourless.

After mentioning another successful case, M. Nonat then adduces the history of other two cases, in which the emetic practice failed altogether in arresting the sanguineous expectoration. In one of these, the patient was evidently labouring under tubercular phthisis in an advanced stage; the first dose of the emetic seemed to produce little or no effect on the pulmonary hæmorrhage; but, on being repeated a few days subsequently, it was distinctly increased, and considerable difficulty was experienced in subduing it.

M. Nonat candidly admits that the exhibition of emetics in a case of hæmoptysis, where we have reason to suspect ulceration of the lungs, is scarcely warrantable, and he very judiciously adds, that the practice is best suited to those cases of the disease, in which the hæmorrhage is of an active nature and is accompanied with the *molimen hæmorrhagicum*.—*Bulletin de Therapeutique*.

Remarks.—We have, for several years past, been in the habit of employing the tartrate of antimony in the treatment of hæmoptysis; but rather in small doses repeated at short intervals, than in full doses as an emetic. For example, a grain and a half, or two grains of the salt may be dissolved in eight ounces of water, and half an ounce of syrup of poppies added to the solution; of this mixture, two table spoonsful should be given every two or three hours. We can confidently recommend this practice, both for its safety and its efficacy.—*Rev.*

M. TROUSSEAU ON TRACHEOTOMY IN CHRONIC DISEASES OF THE LARYNX.

Professor Trousseau has now performed this operation in 113 cases—in eight only of which was it resorted to for chronic disease of the larynx. He ascribes the frequent failure of the operation to the too small size of the canulæ employed before the time of M. Bretonneau, his revered preceptor. He himself has recommended and introduced the use of a dilator, which much simplifies the operation, renders the ligature of the divided bloodvessels almost unnecessary, and greatly facilitates the introduction of the canula into the larynx.

But although the operation may be simplified, it must always be regarded as of serious moment, and should never be resorted to without absolute necessity. For even when the death of the patient cannot be attributed to the operation, there is in many cases after its performance a marked tendency to the supervention of some acute disease of the lungs, which generally proves fatal.

Of the 8 cases, in which M. Trousseau performed tracheotomy in consequence of chronic diseases of the larynx, two died from rapid pneumonia. He attributes this tendency to pulmonic inflammation, which is apt to follow the performance of the operation, to the *stasis* or congestion of the blood induced by the embarrassment of the respiration. It would seem however, from his own statements, that this predisposition to a rapidly fatal pneumonia is not greatest in those cases where the dyspnœa has been most severe before the operation, and moreover that in such cases the relief obtained is often as decided and as permanent as in other instances, where the difficulty of breathing has not been so great. He has reported several cases in which he has performed the operation successfully on children when the asphyxia was already complete, and life seemed to be utterly extinct; and to these may be added a very extraordinary instance which occurred in the practice of M. Bretonneau. This distinguished practitioner being called to operate on a child, had the misfortune of seeing it expire, to all appearance, before the preliminary incisions were completed. M. Bretonneau however, without delay, opened the larynx, introduced a canula, and practised artificial respiration. At the end of a few minutes, the child began to breathe, and at length became completely resuscitated. A few days subsequently it was again seized with great difficulty of breathing; this, however, was ultimately relieved.

M. Trousseau relates a case which is very similar in many respects to this one. In June, 1839, Count B. consulted him for a loss of his voice. His constitution had been a good deal injured by irregularities of living, as well as by syphilitic disease; and for the preceding four years he had been subject to epileptic fits. His voice, for a year or two before it was entirely lost, had been thick and indistinct. M. Trousseau was inclined at first to consider the *aphonia* to be owing to a chronic inflammation of the larynx, and recommended the local application of a solution of the nitrate of silver, and of the insufflation of a powder consisting of calomel and sugar, along with the use of antiphlogistic remedies, blisters to the throat, &c.

No relief however was derived from this mode of treatment; indeed the symptoms became worse. An active syphilitic treatment was therefore commenced; but in about a fortnight afterwards the patient was suddenly seized with a fit of suffocation. MM. Marjolin and Cruveilhier were called into consultation, and as both these surgeons regarded the case as one of syphilitic disease, the same remedies were continued, along with a bleeding from the arm, and the insertion of a seton in the neck. The following night and day, the symptoms of asphyxia were terrible, and as the patient seemed every moment about to be suffocated, it was resolved to perform the operation of laryngotomy. Before, however, this could be done, the respiration had ceased, the pulsations of the heart could scarcely be felt or heard, and the patient had all the appearance of a dead man; no blood flowed from the wound, and when the canula was introduced, no respiratory movements followed.

By first compressing the chest with great force and pulling down the edges of the ribs, so as to empty the lungs of the air they contained, and then drawing them up, as in a deep inspiration, the air entered the canula with force. These manœuvres were continued for nearly ten minutes, before the pulse at the wrist could be felt. The artificial respiration was persevered in for 15 minutes more; and then the action of the heart and arteries was fairly re-established. Ten minutes later, the face was slightly convulsed; and soon afterwards an attack of general eclampsia succeeded, during which the air was drawn in with great violence into the chest, and this was followed by a state of stupor. In an hour and a half after the operation, the patient recovered his consciousness. From this moment, everything went on well; the canula was changed twice every day, and the distress in breathing gradually became less and less. In the month of December (the operation had been performed in the middle of August) the patient appeared to be perfectly well, although he still wore the canula. At this period, the larynx was found to have acquired nearly double its usual volume, and the angle formed at the meeting of the two thyroid plates had become very obtuse. When the canula was closed, no air passed through the larynx from the throat. The diagnosis therefore was, that a tumor existed in the larynx, which would ultimately prove fatal. The deglutition began about this time to be impeded; and at length, in the following May, the poor patient died. A cancerous tumor was found on dissection.

The embarrassment in such cases is to determine what is the exact nature of the existent disease. M. Trousseau however lays it down as a maxim that the operation is never useless, unless there be serious co-existing disease in some other part of the body at the same time; and even then that the life of the patient may be prolonged, although we cannot hope permanently to recover our patient. Whenever, therefore, the diagnosis of such a complication is uncertain, he thinks that we should always give the patient the chance of benefit, by performing the operation.

M. Trousseau insists much on using canulæ of a larger size than are usually employed. He uses a middle-sized one at first, and gradually increases the size until the air ceases to make almost any noise passing through it during a deep inspiration.—*Journal des Connoiss. Med. Chirurg. and La Gazette Medicale.*

UTILITY OF MUSK IN PNEUMONIA ACCOMPANIED WITH DELIRIUM.

When sanguineous and other evacuations have been carried to a great extent in pneumonia and other inflammatory diseases, delirium not unfrequently supervenes. In such cases Profes-or Recamier—one of the most practical physicians of the French school—has obtained the most gratifying results from the administration of musk in large doses. This practice has subsequently been adopted with equal success by many others. Dr. Roché has recently detailed several cases in illustration of its good effects, in a late No. of the *Journal des Connoissances Medico-Chirurgicales*. We give an abridged report of one.

A man, 54 years of age, was seized with all the symptoms of severe pneumonia, on the 20th April 1840: he was bled profusely from the arm, and for the next two days he was much relieved. A state of great restlessness and of mental incoherence supervened, and the urine was passed involuntarily. Leeches were applied to the head, sinapisms to the calves of the legs, and repeated doses of antimony were administered. But no relief was derived from these remedies: the pulse at this time was frequent, small and compressible. A grain of musk was ordered to be given every hour; and soon the patient fell into a tranquil sleep. The somnolence continued for nearly twenty-four hours, and then the patient awoke much refreshed, but not at all aware of what had occurred during the last few days. The musk was continued in less frequent doses, and in the course of a day or two he was fairly convalescent. About two scruples of musk had been taken in the course of three days.—*Gazette Medicale*.

ON THE DANGERS OF PARACENTESIS THORACIS, AND THE BEST MEANS
OF OBVIATING THEM.

Dr. Regbard of Lyons, author of the following observations, is strongly impressed with the opinion, that the chief danger of making an opening into the cavity of the chest, for the purpose of giving exit to any effused fluid, arises from the admission of the external air—whereby the fluid, of whatever nature it may happen to be, becomes vitiated, and inflammation of the lining membranes is apt to be excited. While a student at the Hôtel Dieu in Lyons, in 1816, he had an opportunity of watching several cases, in which paracentesis thoracis had been performed, and he was then led to the conclusion that it is during the act of *inspiration* that the external air is sucked in into the cavity of the pleura. If the wound or opening into the chest be of large dimensions, it will be at once apparent that, during every act of *expiration*, the effused fluid is forced out in greater or less quantity, while it is equally obvious that, during every act of *inspiration*, the air is drawn from without inwards. Dr. Regbard, in subsequently performing the operation on the human subject, used the precaution of plugging the canula of the trocar during each inspiration, and of allowing the escape of the fluid only during the movements of expiration. Unfortunately, however, when nearly all the fluid was thus safely withdrawn, the patient was seized with a violent fit of coughing during an act of expiration, and air was admitted into the pleural cavity. A shivering came on in a few hours after the operation; this was followed by all the usual symptoms of pleuritis, which proved fatal on the third day. Dr. R. attributed the disastrous issue entirely to the admission of air into the chest during the act of coughing. He determined therefore to employ some new expedient in the next case, which might occur in his practice, to obviate this serious evil.

For this purpose he fitted on to the open end of the canula a bladder, which was easily emptied of all air, before the opening was made into the pleura; the effused fluid flowed into the bladder. But there was this inconvenience; that if air

escaped at the same time, as must be the case in cases of hydro-pneumo-thorax, then this air was apt to collect in the upper part of the bladder, and to be again sucked into the chest during inspiration. To prevent this inconvenience, it occurred to Dr. R. that it would be sufficient merely to divide the bladder, and to leave attached a portion of it, of about 81 *centimetres* in length, to the extremity of the canula. This portion of bladder or gut, or what is still better, a piece of gold-beaters' skin, well softened in water, then acted as a valve—during expiration the fluid and air from the chest escaped by separating its thin and yielding, but constantly contiguous, surfaces, whereas during inspiration, it was drawn and puckered around the opening of the canula by the suction exercised from within.

Dr. R. with the use of this very simple apparatus has subsequently performed the operation of paracentesis thoracis several times, without ever incurring the risk of the external air finding its way into the cavity of the pleura. While the stream of fluid that escapes by the canula is uninterrupted, there is little or no risk of this mischief; but in a minute or two it will be observed that the stream becomes less and less continuous, and then that the discharge takes place only during the acts of expiration. It is at this time that the bladder-valve of our author will be found to be truly useful, in preventing the admission of the air during the acts of inspiration.

As to the mode of managing different cases of empyema, Dr. Regbard observes:—

“If the effusion be recent, we may evacuate at once the whole of the fluid in the chest, because the lung, which has not been long compressed, will probably be able to dilate itself and resume its normal volume, when the compressing force is withdrawn. If, on the contrary, it has existed for several months, it may be more judicious to discharge the contents only partially, so as to permit the compressed lung to regain its former dimensions by degrees. Under such circumstances, I am of opinion that we should leave the canula, provided with the membranous valve, in the wound, so as to give a constant drainage, so to speak, from the pleural cavity, and thus enable the lung to expand itself gradually. If we adopt this practice, it will be found better to perforate the chest by drilling a hole through one of the ribs, than merely to divide the soft parts in an intercostal space with a trocar or bistoury.”

It would appear, however, from a subsequent part of his memoir, that M. Regbard prefers to withdraw the canula after the operation, and re-introduce it once or twice every 24 hours for several days successively, than to leave it constantly in the wound.—*Gazette Medicale*.

ON HYDATIDS IN THE CHEST—REMARKABLE CASE, WITH OBSERVATIONS.

There is scarcely an organ or tissue of the body in which these parasitical formations have not been discovered.

They are very common, it is well known, in certain ruminant animals, as in cows and sheep. In the human body, they are usually small and numerous; but in the lower animals we more often find only one hydatid which has attained a large size. In them, as in man, the liver and the lungs seem to be the organs in which hydatidic formations are most frequently developed.

What is the cause of such curious intus-conceptions? M. Cruveilhier, in his most ingenious work on this subject, published a few years ago, suggested that they might be owing to the introduction of unassimilated living molecules or germs into the blood from the alimentary canal, and circulated along with the blood to every organ of the body, until they became arrested in some part, and there grew and multiplied. Whether we admit this hypothesis or not, we cannot

hesitate to acknowledge, with M. Cruveilhier, that insufficient nourishment and a residence in a damp unwholesome locality have an incontestible influence in favoring the production of acephalocyst germs. M. Dupuy, the distinguished professor in the veterinary college of Alfort, has arrived at the same conclusions with M. Cruveilhier.

By keeping in memory these two ascertained facts—1, that the development of hydatids is promoted by imperfect alimentation, and 2, that the organs most frequently affected, the liver and the lungs, are the organs of *hamatosis*, through which the whole or the greater part of the blood passes—we certainly make some progress in discovering the ætiology of these singular growths.

Andral has reported in his *Clinique* seven cases of pulmonary acephalocysts. In all of them there had been during life an almost constant dyspnœa, which, in some of the patients, amounted to decided orthopnœa. The same suffering was present in the four cases related in the work of Cruveilhier—all of them having been afflicted with difficulty of breathing, which in two cases became every now and then quite suffocative. Neither of these distinguished physicians had been able to form a just diagnosis of the disease during the life of their patients; as, with the exception of the dyspnœa, the other symptoms were not quite alike in any two cases. Thus in one of Andral's cases, the symptoms seemed to indicate the existence of tubercles, in another of pulmonary emphysema, and in a third of chronic pneumonia or pleurisy.

The following remarkable case, recorded by Dr. Max. Simon, will be read with interest:—

A middle-aged woman had enjoyed good health till the year 1837, when she became, she said, subject to complaints in the throat, and some difficulty of breathing whenever she walked quickly, or went up stairs; there was also some degree of fever, and a slight cough at the same time. All these symptoms, however, gradually declined, and she recovered her usual health.

In 1839, the symptoms returned with greater severity, and, notwithstanding the use of bleeding, blistering, &c., the dyspnœa became suddenly almost quite suffocative, the face being livid, the throat swollen, and the cellular substance at the upper part of the chest emphysematous. The poor creature could not speak, but pointed with her hand to the front of the throat, as if something there prevented her drawing her breath. Dr. Simon suspected a sudden invasion of œdema of the glottis. In spite of all the remedies that were used, the woman died in about forty-eight hours after the seizure.

Dissection.—The larynx and trachea exhibited no abnormal appearances. On opening the chest, however, there was discovered an immense pouch developed at the expense of the mediastina, and situated between the two lungs, which were in consequence much compressed. This pouch had been accidentally opened, and was, therefore, nearly empty when examined. It still, however, contained a great number of hydatids; but a much greater number were found floating loose in the blood which had escaped from the divided *venæ cavæ* into the cavity of the *plura*.

Remarks.—A curious feature in this, and such-like cases, is the intermittence of the symptoms, and often, too, the sudden invasion of danger, when there must have been a constant and very serious lesion of so vital an organ as the lungs, during a great length of time. The most conspicuous symptom in the present instance, as well as in those related by MM. Andral and Cruveilhier, was the dyspnœa; and neither auscultation nor any other means of diagnosis could detect to what cause this dyspnœa was attributable. It is rather from the absence of those symptoms which characterize the more common disease of the lungs, while there is still more or less dyspnœa, than from the existence of any special symptoms, that we may be led occasionally to suspect such a disease as that of hydatids in the organs of respiration.

"An important information, which may throw great light on a diagnosis so difficult, but of which physicians almost always deprive themselves, in consequence of not weighing with sufficient attention the account which patients give of their previous symptoms and condition, is the expectoration of either entire hydatids or of simple debris, the nature of which, however, is usually sufficiently distinct to be at once recognised." Thus, in the case which we have briefly reported above, the parents of the patient told us that he had on more occasions than one expectorated sputa, which were like pieces of skin rolled upon each other, and that, after such expectoration, he had always been much relieved; at the time we thought nothing of their statement, and only remembered it when the hydatid cyst was laid open on dissection. Consider how much this circumstance might have aided us, not only in the diagnosis of the disease, but also in suggesting a mode of treating it! For example, we at once understand how utterly useless large bleedings must be in such a case, whereas the employment occasionally of powerful emetics might have assisted nature in dislodging the contents of the hydatidic sac."

M. Simon closes his remarks by alluding to another case, which had occurred in his practice, and in which the expectoration of the hydatids appeared to be considerably promoted by the inhalation of the vapour of æther; the patient, however, ultimately died from disease of the heart.—*Journal des Connoiss. Med. Chir.*

ON HYDATIC TUMORS OF THE LIVER.

Although allusions to these morbid formations may be found in the writings of the older physicians, and even of Hippocrates and Aretæus, it has been only within the last few years that much attention has been paid to their history.

As might be expected, much obscurity hangs over the question of their ætiology, or, in other words, of the causes which give rise to them. Professor Cruveilhier has suggested an opinion, more ingenious perhaps than probable, which rests on the frequency of hydatids in the tissue of the liver, and on the circumstance that this viscus is the *aboutissement* of all the abdominal venous blood, and consequently must receive along with the blood various materials, and organic materials which are imperfectly elaborated and animalised: these, he supposes, being deposited either in granulations or in the cellular tissue, become at length capable of a separate and individual life. It does not appear, as far as we know, that age, sex, or constitution, has any influence on their *genesis*. Among some of the lower animals, indeed, it would seem that imperfect nourishment and a damp unwholesome locality are sufficient to cause the development of hydatids in great frequency; but in the majority of the cases in the human subject, which have been collected together by M. Barbier in his recent work (*De la Tumeur Hydatique du Foie*, Paris, 1840), and amount to thirty-four in number, there is certainly no evidence to shew that these agencies had had any influence.

The existence or absence of the cyst, and the number and size of the hydatids, are circumstances which are very variable, and cannot be ascribed to any appreciable phenomenon. As to size, the hydatid tumor has in some instances been found to weigh several pounds; and then, as to their number, M. Barbier has found that, in twenty out of the thirty-four cases alluded to, there was only one hydatid tumor, in ten, there were more than one, and in seven, similar tumors were found in other viscera.

The symptoms of hydatid tumor of the liver are referrible almost altogether to its action on this viscus, and on the adjacent organs—as, for example, pain in the right hypochondrium, jaundice, ascites, and œdema of the lower extremities, disturbance of the digestive functions, and occasionally, also, of the respiration,

circulation, and nutrition, &c. There is, however, one which is peculiar to this affection, and has been described under the appellation of the *bruit hydatique*, heard on percussion of the tumor. It is a complex phenomenon, being partly a sort of fluid sound perceived by the ear, and partly a vibrating trembling felt by the finger which strikes. It requires much tact and a good deal of practice to discover its existence in any case; but, if once fairly ascertained, it is pathognomonic of the disease.

There is another means of diagnosis which may always be resorted to, whenever there is any uncertainty—we allude to that of puncturing the tumor with an exploring needle.

M. Recamier, so distinguished for his admirable skill in diagnosis, has practised this method with success in numerous cases.

The progress and duration of hydatid tumors of the liver vary exceedingly in different cases. In some, the disease does not give rise to any distinct symptoms until the swelling has attained a considerable size; in others, pain and feverish irritation accompany its early development.

The modes of its termination, when left to itself, are various, and this, like many chronic diseases, often exhibits the resistance which the animal economy opposes to the progress of morbid action. Sometimes the tumor breaks outwardly; at other times it opens into some part of the alimentary canal, or, after causing a perforation of the diaphragm, it discharges its contents into the bronchi of the adjacent portion of the lungs.

As to the treatment of hydatid tumors of the liver, we need scarcely say that any internal remedies can have little or no action upon their development, further than as they may tend to improve the general health of the patient, and thus fortify nature in her sanatory efforts. Surgery alone offers resources which inspire any confidence, and in the hands of an able practitioner may conduce to the cure of the disease. M. Recamier, as already stated, has set the example, and shewn us how to act under such circumstances. When once he has ascertained, by means of puncturing with a small trocar, that an encysted tumor is really present, he makes an eschar over the most prominent part with the *potassa fusa*, and repeats the application, at longer or shorter intervals according to the circumstances of the case, until the entire thickness of the abdominal parietes at that point is destroyed. The object is in part to reach as near as possible to the cyst before opening it, and in part also to cause an adhesion between the opposite surfaces of the peritoneum over it, so as to prevent the effusion of its contents into the cavity of the abdomen, when it is opened either by a new application of the caustic or by a cutting instrument.

When the sac has been evacuated, there still remains an important condition to fulfil; viz. to prevent its internal surface, which is sometimes very extensive, from suppurating and thereby inducing an irritative fever. To avoid this accident, M. Recamier is in the habit of filling the sac immediately with tepid water: this he renews every day, gradually diminishing the quantity injected, as the cyst contracts and its cavity becomes lessened.

By adopting the course of treatment now recommended, this accomplished physician has succeeded in effecting a cure of the disease in a considerable number of cases. Dr. Jobert and some other practitioners have also tried it, and have obtained most satisfactory results from it. The reader will find the detailed reports of several of Dr. Jobert's cases in the Thesis of M. Barbier.

TREATMENT OF ENLARGEMENTS OF THE SPLEEN.

Dr. Boyer, who informs us that his experience in the treatment of agues and of their consequences has been extensive for a series of years, regards almost every

case of enlargement of the spleen as attributable to a passive congestion or accumulation of blood in its spongy parenchyma, the result of a retarded or impeded state of the abdominal circulation. It is not therefore by depletory means, or by any form of antiphlogistic treatment, that we can expect to reduce the (wrongly called) hypertrophied condition of this viscus. On the contrary, it is on fortifying the general system and promoting at the same time greater activity in the transit of the blood through the abdominal viscera, that we are chiefly to rely. If any dregs of the intermittent fever continue, the quinine, or some other form of bark, must be exhibited freely and in large doses. As the fever abates, the doses are to be gradually lessened; but the use of the medicine in some form* must be continued for a length of time. Frictions of the left hypochondrium, either dry or with some gently stimulating application, should be daily used; and immediately after each friction, a flannel belt should be put rather firmly around the abdomen. Out-door exercise is generally very useful; and, if the patient is residing at the sea-coast, he should try the effects of warm salt baths.

It is unnecessary to say that the state of the intestinal and the urinary secretions must be carefully attended to. Much harm is however apt to be done by the excessive use of purgatives; they tend to weaken the bowels, and thus to enfeeble the abdominal circulation. Dr. Boyer does not approve of drawing blood by cupping over the left hypochondrium as recommended by Drs. Levy and Nonat; but he does not object to the use of dry-cupping, which may tend to invigorate and excite the transit of blood through the spleen and the adjacent viscera. If the enlargement does not yield to the use of the means now mentioned, Dr. B. very strongly recommends the application to the affected side of an emplastr ammoniaci cum hydrargyro, with which has been incorporated a scruple or half a drachm of quinine, not omitting the use of the abdominal belt, and of bark or quinine internally at the same time.

No progress in the relief of the local evil can be made, if the employment of constitutional means be not carefully persevered in. In cases of very long standing, and where the viscus has become exceedingly enlarged, we are not to expect to effect a complete reduction to its healthy dimensions; we may, however, almost uniformly succeed in diminishing the swelling very considerably, if the constitution of the patient be moderately sound.—*Gazette Medicale*.

M. BRESCHET ON HYDROPHOBIA.

It seems that, upwards of five and twenty years ago, M. Breschet, in conjunction with the late Baron Dupuytren and M. Majendie, undertook the work of investigating some of the most interesting topics connected with the history of this obscure and dreadful malady.

In addition to watching most attentively all the cases that were brought to the Hôtel Dieu at Paris, these distinguished physiologists performed numerous experiments on animals at the Royal Veterinary School at Alfort and elsewhere, with the view of determining the laws of the transmission of the hydrophobic virus from one animal to another. Their conjoint labours were interrupted by the political convulsions of the period, and were never afterwards resumed, at least with decided energy: but as some of the results of their researches are perhaps not generally known, M. Breschet has very wisely deemed it right to make them public, more especially as, of late years, doubts have been expressed by some writers as to the contagious nature of hydrophobia.

* The decoction and the vinous tincture of cinchona are often exceedingly useful towards the decline of the fever.

The disease very rarely, if ever, appears spontaneously in other animals but those of the dog tribe ; and certainly there is no authenticated case of its spontaneous uncommunicated origin in the human species. It has been from not having established the difference between the mere nervous affections in which there may happen to be a dread of fluids and a difficulty of swallowing, &c. and communicated *rabies*, that some authors have confounded *hydrophobia* with genuine *rabies*, and have thus been led into the error of regarding the latter disease as occasionally of spontaneous origin.

M. Breschet, after examining this question at considerable length, proceeds to narrate some interesting experiments.

On the transmission of Rabies from Man to the lower Animals.

In May 1813, a man, 21 years of age, was bit by a mad dog, which had attacked a number of persons, several of whom were taken into the Hôtel Dieu, and had the wounded parts cauterised with a hot iron. Three of these persons, were still in the hospital, when our patient, Surlu, was admitted on the 18th of June, on the third day after the first manifestation of the symptoms of *rabies*. He had received three bites on his right heel, which had been ineffectually cauterised an hour after the accident with the butter of antimony. The wounds healed, and the man, free of all apprehensions of future mischief, had been living an irregular debauched life, when suddenly a change came over his whole character ; he lost his usual vivacity, all his movements became quick, hurried and impatient ; he was every now and then sitting down, and then rising up without any object or motive ; at times he began to weep, and express his alarm that he should become mad. Next day he manifested a repugnance to liquids, and when offered to him to drink, he forced them away from him. The eager vivacity of his looks, the restlessness of his whole body, the frothy fluid which was constantly flowing from his mouth, or which he spat out, the pain and sense of constriction in the back of the throat, and the horror at all liquids, left no doubt as to the nature of the case. MM. Dupuytren and Breschet determined to try the effects of injecting a solution of opium into the circulation. For this purpose a vein was opened in the arm, and, by means of Anel's syringe, a solution of two *grummes* of the aqueous extract in a small quantity of water was thrown into it. A few instants afterwards a pleasing calm supervened, so that in the course of about four hours subsequently, four grains of the same medicine were administered in the same manner. For some hours there was a remission of the chief symptoms. But this calm was only temporary ; all his former distress returned ; he was in a state of constant agitation and restlessness, and every now and then uttered the most dreadful screams. Next day, he was more exhausted, but still retained his consciousness most perfectly. Six grains of the opiate extract were injected into the venous circulation, and again it produced very soothing effects ; but the patient became more and more exhausted, and he died in the course of the night.

MM. Breschet and Majendie having collected a considerable quantity of the frothy saliva from the mouth of the patient, inoculated two middle-sized dogs with it, inserting it into a wound on the back of the animals. This was done on the 19th of June ; and on the 27th of July, one of the dogs (the other having made its escape before it was secured) manifested the symptoms of decided *rabies*. It bit several other dogs which were exposed and every one of these became subsequently mad. " We could," adds M. Breschet, " by means of inoculation, keep up the disease in a number of dogs successively, in order that we might have constantly a supply of the *rabic* virus at command to enable us to pursue our experiments."

It was observed that the disease developed itself most frequently in from the 20th to the 30th day after the bite ; occasionally, however, it did not appear until the end of three months afterwards.

There was reason to believe, from the results of several experiments, that the

disease is not so readily communicated from one dog to another, when the contagious principle, the saliva, has been transmitted through three or four animals successively. If this remark be confirmed, it would shew that the virus becomes less and less active by passing successively through the systems of several animals.

In a few instances there was in truth no hydrophobia present ; for the animals drank with eagerness any fluid that was put before them. This circumstance alone suffices to shew that the genuine *rabies* and mere *hydrophobia* are by no means the same morbid states.

Before quitting this part of our subject, we may state that as yet we know of no authenticated example of the disease having ever been communicated from one human being to another, although there is every reason to dread such an event, if the saliva were permitted to be introduced into the system. We may mention also that when the patient, whose case we have given, was under treatment, there was a good opportunity of testing how far mental emotions can, of themselves, give rise to the symptoms of genuine *rabies*. When poor Surlu was brought to the Hospital, it soon became known to all the inmates that he was there, and that his death was looked for every hour. Now among these inmates were three persons who had been bitten by the same dog as the patient ; and they remained in the hospital nearly two months afterwards ; but fortunately, notwithstanding this long protracted agony of fear, they entirely escaped any threatening of hydrophobia.

On the transmission of Rabies from Carnivorous to Herbivorous Animals.

M. Breschet exposed a strong healthy donkey to a dog that was furiously mad ; the dog bit it in several places. Three weeks afterwards the donkey exhibited all the symptoms of *rabies* in the highest degree. "I may even affirm" says our author, "that I have never seen any animal that was more furiously rabid, or that manifested a stronger disposition to bite ; it tore its own skin in several places."

M. Breschet also inoculated two horses with the froth collected from the throat of rabid dogs, by means of a sponge at the end of a rod. Both animals were subsequently seized with all the symptoms of *rabies*, but neither of them was so furious as the poor donkey.

On the transmission of the Disease by inoculation from Solipedous to Carnivorous Animals.

M. Breschet took some of the saliva of the horses and the donkey, that were rabid, and introduced it under the skin of the back of several dogs, all of which became mad in from 25 to 40 days after the operation. As this experiment was made not on one dog only but on several, and with uniformly the same results, we cannot hesitate to admit that the disease is readily transmissible from herbivorous to carnivorous animals—a fact which has been denied by some veterinary surgeons.

The dogs, which had thus become mad, were allowed to bite other dogs ; and these too became affected in the same degree.

M. Breschet has therefore no doubt in his own mind as to the transmissibility of the disease ; but he candidly admits that other experiments have failed in their attempts to inoculate carnivorous from herbivorous animals (vide *Journal de Magendie*, t. viii.). As, however, one *positive* fact is worth a cartload of *negative* ones, the opinion of our author must be assented to. He has not been able to determine whether the disease can be transmitted by inoculation from one herbivorous animal to another of the same tribe. Several veterinary surgeons have denied the possibility ; but our author seems not to be quite satisfied on this point.

M. Breschet, in the course of his researches, endeavoured to ascertain the

effects of the poisonous virus, the saliva of a rabid dog, on some of the *rodent* tribe of animals. He therefore inoculated several rabbits, guinea-pigs, &c.—the animals died, but without manifesting any of the symptoms which are characteristic of the genuine disease.

The same result attended his experiments on birds.*

Before concluding his remarks on the transmission of the virus of *rabies* from one animal to another, our author informs us that he has made several experiments on carnivorous as well as on herbivorous animals, with the view of ascertaining whether the disease can be communicated by applying the saliva of a mad animal to an unabrased mucous surface in another. For this purpose he introduced portions of sponge charged with the saliva, into the mouth and rectum of several animals; but on no occasion did any symptoms of contamination ensue.

These negative results agree with those obtained by Fontana in reference to the poison of the viper; but they are in opposition to what has been stated by Enaux and Chausssier, who inform us that they once saw a man affected with genuine *rabies* after having received on his lips the saliva of a mad dog.

M. Breschet, in conclusion, briefly indicates the principal morbid changes which he has observed in the bodies of men and of the lower animals which have died of *rabies*.

We might expect that the pharynx always exhibited some abnormal appearances; but such was far from being uniformly the case. In some cases, however the isthmus of the fauces, the velum, the pharynx and œsophagus, presented a strongly-marked *teinte rosée*, bordering occasionally on a violet hue. A quantity of frothy mucosity, similar to that of the respiratory passages, covered the surface of those parts as far down as the commencement of the œsophagus.

There was no very obvious lesion of the circulatory organs, except perhaps the distention of the pulmonary capillaries with black blood. We regret that we had not examined the blood either by chemical analysis or with the microscope: it is an omission which our author wishes to be filled up, although he has no reason to believe that the fluids have undergone any considerable change.

The examination of the nervous system has frequently revealed a highly-injected state of the vascular network of the pia mater, more particularly around the fissure of Sylvius: in some cases a sero-gelatiniform effusion has been found in the cellular tissue of this membrane, and along the course of the principal arterial branches. It has been alleged by some, that there are usually observed signs of inflammation of the encephalon and of the spinal medulla; but, with the exception of a vascular state of the arachnoid membrane, and occasionally of a soft-

* M. Breschet remarks that the absorption of poisonous substances is usually very rapid and active in birds, and he mentions a curious circumstance which deserves to be generally known, as it may possibly suggest a useful hint in the treatment of poisoning with certain substances. After stating that he had performed a good number of experiments by inoculating various birds with the virus of some West India reptiles, and that they (the birds) all quickly died, unless prompt relief was given them—he adds—“I say unless prompt relief was given them; because we possessed a certain means of annihilating the deleterious action of the poison, which invariably succeeded, if not delayed too long. This consisted in establishing an electrical current from the wound of inoculation, by means of a metallic wire communicating with one of the poles of a galvanic pile in action, the other end of the wire being in contact with another part of the animal's body. Under the influence of the electrical current, the morbid actions induced by the poison became gradually less and less, until they finally ceased.”

M. Breschet suggests the trial of it in cases of inoculation with the *rabie* virus.

ened state of some part of the cerebro-spinal axis, as well as of a sero-albuminous infiltration in the loose sub-arachnoid tissue, we have never detected any well-marked lesion to indicate a previous inflammatory action.

The lungs have been observed to exhibit a more or less deep red hue, which in some instances passed into a dark brown colour. This appearance was usually circumscribed to certain parts; more rarely it extended over the entire lungs. One of the most frequent morbid phenomena was the discolouration of the mucous membrane of the bronchi and occasionally also of the trachea: the hue was usually a dark red, verging into a violet or even a brown colour. In several instances there was interlobular emphysema of the tissue of the lungs over a greater or less extent. Morgagni has alluded to this sort of infiltration of air into the pulmonary tissue.

M. Breschet is of opinion that the frothy discharge from the mouth is not mere saliva (the salivary glands seldom exhibit any abnormal appearance), but is rather a diseased secretion from the fauces, pharynx, &c.—*L'Experience*, No. 171.

We observe that a well-marked case of hydrophobia was recently admitted into La Charité hospital under the care of M. Bouillaud. The disease came on nearly four months after the bite of a dog, the patient's health having remained quite good during the interval.

The appearances found on *dissection* were, as usual, very unsatisfactory. Nothing abnormal was to be seen in the mouth, fauces, or pharynx. Towards the lower part of the œsophagus there were several small ecchymosed spots on its mucous surface. All the abdominal viscera appeared quite sound. The lungs and heart also were sound. The meninges of the brain were somewhat congested; but the cerebral substance was unaltered. The medulla oblongata seemed to be a little softer than usual: the medulla spinalis and its membrane were sound.—*Gazette des Hôpitaux*.

MAJENDIE'S METHOD OF TREATING NEURALGIA.

The remedy, *par excellence*, recommended by M. Majendie in the treatment of obstinate neuralgia of the face and other parts, is electro-acupuncture. The needles should be made of an unoxidable metal, and therefore those of platina are to be preferred. With respect to the mode of introducing them, it is better to push them at once and with a sort of plunge, than to endeavour to drill them more slowly. In most cases two needles are quite sufficient; one near the origin of the nerve, and the other near its termination or expansion. The former is then to be connected with the positive wire, and the latter with a negative wire of a galvanic apparatus. The patients usually describe the sensations experienced as if a spark or stream of lightning passed instantaneously along all the divisions of the nerve; at the same time the muscles of the part are thrown into contractions. The application is not to be continued beyond a few seconds, except in some severe cases, in which a continued stream must be maintained for some time. M. Majendie gives the preference to Clarke's electro-magnetic machine, as being altogether more convenient than any other for the purposes of electro-acupuncture.

If the neuralgic pain leaves one branch of a nerve to fix itself upon another branch, or upon another nerve, one or both needles are to be withdrawn, and should be inserted along the course of the nerve newly-affected.

Several cases of supra-orbital neuralgia are adduced, in which the employment of electro-acupuncture speedily dispelled all suffering. The following one, in which the superior maxillary branch of the fifth pair was the affected nerve, may deserve to be noticed.

M. Thelin had been subject to frequent attacks of most severe neuralgia, af-

fecting the superior maxillary nerve of the left side, when he first consulted M. Majendie. The pain in the gums, lips, cheek, and ala nasi were insupportable; the patient could scarcely utter a word, and, as for mastication, that was impossible. All methods of treatment had been tried, and all tried in vain. What with having many of his teeth extracted, and being leeches and blistered, and physicked for months and months at a time, his constitution had suffered severely. He consulted M. Majendie on the 5th of March, 1838: at one sitting of a few minutes the pain was *chassé*. Since that period, whenever the neuralgia returned, he repaired to M. Majendie, and always left him cured of his suffering. It is now several months since he has had an attack.

In the second volume of our author's lectures on the nervous system, he has related two cases of severe neuralgia affecting the tongue; in one of which the disease had lasted for four, and in the other, for one year. . . . "A very fine platina needle was inserted into the trunk of the facial nerve, where it enters the parotid gland, and another was inserted into the affected side of the tongue. In this manner I was sure to act on the seventh and fifth pairs of nerves, since I punctured the trunk of the first and the lingual branch of the second. The needles were then connected with the wires of Clarke's machine. In one of the patients the pain in the tongue immediately ceased, but it fixed itself on the mental branch of the inferior maxillary nerve. The needle was forthwith withdrawn from the tongue and inserted over the *foramen mentale*. The pain was driven from this point, but it was almost immediately transferred to the infra-orbital nerve. The needle was, therefore, introduced over the aperture from which it escapes. The enemy was thus pursued from one point to another, and ultimately was expelled before the patient left my house. In the other case, the pain, when driven from the tongue, took refuge in the sub-orbital nerve; driven from this, it returned to the tongue, whence it was again dislodged. Ultimately the patient was quite cured."

Certainly such practice is infinitely superior to that of attempting to divide each nerve, that becomes successively affected, as practised, for example, by M. Roux in a recent case, where he divided first the mental branch of the inferior maxillary, then the lingual, and, lastly, the sub-orbital nerve—the enemy, however, retreated to the ethmoidal, where the knife of the surgeon could not reach him.

"In such a case," says M. Majendie, "I pursue the pain, not with the bistoury, but with the galvanic current. Even should it fix itself upon the ethmoidal nerve, I should insert one needle into the nostril, and another into the orbit, along the upper part of its internal wall, at the place where the external nasal traverses it, thus attacking it both near its origin and its termination.—*Gazette Medicale*

Remark.—We have no doubt that electro-acupuncture will relieve the suffering in many cases of neuralgia, which are unconnected with structural disease of any part; but it is more than probable that the relief will be only temporary, unless appropriate constitutional means are employed at the same time.—*Rev.*

M. BIOT ON THE DIAGNOSIS OF DIABETES MELLITUS BY THE OPTICAL APPEARANCES OF THE URINE.

M. Biot, the distinguished natural philosopher, informs us that, Dr. Mandl having enquired of him, if by the observation of the rotatory power the presence of sugar could be detected in the urine, he has performed numerous experiments with this view on the urine of patients labouring under diabetes mellitus. Chemistry enables us to obtain from such urine a substance, which is fermentable, and whose characters of solubility, of fusibility, and of crystalline appearance, are in

every respect quite identical with those of solidified sugar from the grape, and of that produced by the prolonged action of sulphuric acid on starch. Now this fermentable matter, so obtained, is sometimes sweet or saccharine to the taste, and at other times it is altogether insipid. Hence some authors, as M. Bouchardat in his excellent memoir in the *Revue Medicale* for June, 1839, have been inclined to conclude that there are two kinds of sugar in diabetic urine—one sapid, and other insipid. It is, however, more probable that tastelessness of the fermentable extract is owing to the union of the saccharine substance with other ingredients of the urine, such as the lactate of urea, chloride of sodium, and extractive matter: this opinion is confirmed by the results of optical examination. For the purification of the insipid product, by repeatedly washing it with alcohol, leaves as a residue a sapid sugar, which is quite analogous in appearance with the sugar of fecula, susceptible of fermentation like it, and which exercises a rotatory power of the same character.

"My first care," says M. Biot, "was to ascertain if healthy urine ever presented traces of rotatory power. The result of my observations has been that it does so never, or at least very rarely, and then accidentally and scarcely perceptibly. I long ago satisfied myself that urea, which enters so abundantly into the composition of healthy urine, exhibits no appreciable rotatory power. I had also found in diabetic sugar a rotatory power of the same kind (*de meme sens*) and of the same intensity as the sugar of starch—a fact which accords with the identity of ponderal composition, which chemistry attributes to them."

..... "I examined the urine of a diabetic patient, under the care of M. Breschet. He had been for some time subjected to a diet of animal food chiefly, and had derived so much benefit from it, that he was considered to be on the road to a recovery, although still affected with *diabetism*. His urine exhibited a power of considerable rotation, directed towards the right hand of the observer, consequently in the same direction as the solid sugar of diabetic urine obtained by evaporation. Its deviation, observed immediately with the naked eye, through a tube of 347^{mm}, 6 in length, was $\pm 10, 6$.*.... In a case under the care of M. Rayer, the rotatory power of the urine, observed in a tube of the same length, exhibited a deviation to the right hand of $180, 5$. This urine contained nearly twice as much saccharine matter as that of M. Breschet's patient. If this sugar might be considered as free, or as combined with substances which do not alter its rotatory power, the urine must have contained from 110 to 120 *grammes* in the *litre*—a proportion which does not exceed what M. Bouchardat has met with in extreme cases of the disease.

But to estimate in this way, with exactitude, the ponderable quantity of saccharine matter by the mere extent of the deviation observed through a liquid medium, it is necessary that the two conditions now specified should have been previously determined by the chemist. It is for this reason that, until such analytical examination has been made, I restrict myself at present to merely suggesting the optical diagnosis as a means of comparison."

M. Biot then mentions some other circumstances which confirm the opinion that diabetic sugar is strictly identical with that obtained from fecula.

.... "M. Rayer's patient was seized with a pneumonia, while under treatment, for the diabetes. The animal diet was, therefore obliged to be suspended. The urine, under the influence of the inflammatory action became of a deeper colour, and was found to contain much less sugar. Five days after the invasion of the inflammatory symptoms, and seven days after the suspension of animal food, the urine was found to exhibit no traces whatever of rotatory power; consequently all secretion of sugar had ceased.

* We give these figures as they stand in the French memoir, as we might commit an error in reducing them to an English standard.

How much more easy it would have been to have treated this case, had the poor fellow come to the hospital at the commencement of his disease, when the simple inspection of his urine might have proclaimed at once the danger of his situation!

In another case from the practice of M. Rayer, that of a child in whom there was a copious diuresis, accompanied with extreme thirst, &c. I examined the urine optically, but could not discover any sign of rotatory power. Now on evaporating it, we found that there was exceedingly little residue left, and that this was not fermentable. The optical and the chemical examination corresponded, therefore, in their results. It is, without doubt, easy in such a case to ascertain the nature of the urine by evaporating it and testing the residue; but it is still more easy to introduce some of the urine into a tube, and arrive at the same conclusion by simple inspection."

M. Biot suggests to physicians, that by following this plan, the optical examination of the animal fluids, they might ascertain whether the serum of the blood &c. in diabetes contains any free saccharine matter. He has already found that the serum of healthy fluid has a rotatory power directed to the left hand—in consequence of its containing albumen, which acts in this direction. If the serum contained any sugar, we may expect that its rotatory power should be considerably weakened, or perhaps altogether changed. A similar occurrence may be expected in the urine itself, when it has become albuminous. These are questions well deserving the immediate attention of the scientific physician.

M. Biot concludes his remarks with these words:—

"The optical characters of the urinary secretion will furnish an easy, sure, and exact means of diagnosis, to enable us to ascertain in a moment its diabetic condition. In this way, we may recognise the commencement of the disease from its earliest stage, detect at once its different peculiarities, and follow it through all its phases. It will then be easy to discover the immediate effects of regimen and diet, as well as of any medicinal agents that may be administered."—*Gazette Medicale*.

MICROSCOPIC OBSERVATIONS ON MILK.

M. Donné has recently communicated a memoir on this subject to the Royal Academy in Paris. A committee consisting of M. Moreau, professor of midwifery to the Faculty of Medicine, M. Baron, physician of the Foundling Hospital, and MM. Orfila, Velpeau, Blandin and Louis, was appointed to report upon it; and the following are the main conclusions of their report:—

1. The *colostrum* has microscopic characters which distinguish it from genuine milk; it may be recognised by *granity* (*graniteux*) corpuscles very distinct from the globules of milk, and by a peculiar arrangement of these last-named globules attributable to the presence of a mucous matter which connects them together.

2. In the normal state, and in healthy nurses, the milk does not exhibit any traces of colostrum, from the tenth to the twenty-fifth day after delivery.

3. We find the elements of the colostrum in the milk of certain nurses at much more distant periods after delivery; and this character constitutes one kind of alteration of the milk, which renders it unwholesome to the infant beyond a certain age.

4. The microscope enables us to appreciate the nutritive richness of the milk by the number of the globules, which are always in proportion with the other constituents of this fluid, (the caseum, sugar).

5. All the globules of the milk are formed of fatty matter, as is shewn by their solubility in ether: they are not composed, as it has hitherto been generally alleged, in part of butter and in part of caseum.

6. The milk of women, as that of the cow, &c. restores the blue colour of reddened litmus paper; it is therefore not acid, as stated in most works on chemistry.

7. The milk of good healthy nurses always exhibits numerous globules unadherent to each other, distinct, and without admixture of foreign bodies. Although there are some of all diameters from the 500th to the 50th part of a millimetre, the greater number are of a medium size.

8. Whenever milk does not exhibit these characters, and when its globules are confused, agglomerated together by a mucous matter, and do not float about freely, and without adherence to each other on a plate of glass, or when they are mixed with foreign bodies (granular bodies or mucous globules,) we must regard it as more or less abnormal and unhealthy. We observe it so in nurses who have an engorgement or any local disease of the mammæ, and in those whose general health is disturbed.

9. The presence of pus and of blood in milk is readily determined by microscopic examination, as well by the difference in aspect and organisation of the globules which enter into the constitution of these three liquids, as by the different effects produced upon them by ammonia and æther. The globules of milk resist the action of ammonia, while they are entirely soluble in æther; it is the very reverse with the globules of pus and of blood.—*Gazette Medicale*.

Addend.—We observe, in a recent number of the same journal, a note on the influence of different articles of food on the milk of cows and goats. Turnips, it is said, render the milk lighter and of more easy digestion than the common fodder, while beet-root makes it extremely rich and substantial. The convalescence of the Count of Paris, the infant grandson of Louis Philippe, is attributed to the milk of a cow fed on turnips having been substituted for that of his nurse, the latter having been found to be not sufficiently nutritious. "The success was immediate and complete, the young prince being restored to perfect health."—(*Rev.*)

DIEFFENBACH ON THE CURE OF STAMMERING BY OPERATION, WITH REMARKS.

The distinguished surgeon of Berlin has addressed a lengthened letter to the Institute of France on the subject of curing impediments of speech by means of a surgical operation. We shall give an abstract of its contents before offering any remarks of our own.

M. Dieffenbach tells us that, after long consideration of the subject, the idea quite suddenly (*tout à coup*) came into his mind that "the change produced in the innervation of the muscles of the tongue, by dividing the muscular part of this organ, might probably effect a cure of stammering." What suggested the idea to him was the circumstance of a person who squinted with both eyes, and who happened to be also affected with stammering, coming to his consultation to have an operation performed on her eyes. He has subsequently observed that these two defects are often co-existent in the same person.

"As I believed that the cause of stammering was dynamic, and consisted in a spasmodic state of the air-passages, and more especially of the glottis, communicating itself to the muscles of the tongue, and of the face and neck, I inferred that, by interrupting the innervation to the muscles involved in this abnormal condition, we might succeed in modifying, or even completely suspending it. The obvious way of doing this, was to make a transverse section of the root of the tongue."

He has tried three different modes of operating :

1. The transverse horizontal section of the root of the tongue.
2. The transverse subcutaneous section of the root of the tongue, with the conservation of the mucous membrane.
3. The horizontal section of the root of the tongue, with excision of a triangular piece of its substance.

"I had anticipated much greater benefit from the last than from the other two methods of operating, because it at once produced a shortening of the tongue, and enabled the patient to move it up easily against the roof of his mouth—a movement which is always strongly inculcated by all those who profess to cure stammering. As, however, it was a more serious operation than the other two, I wished to give a fair trial to them also. The instruments required for these operations are several kinds of forceps, a hook provided with a handle, a long narrow curved bistoury, and several curved needles armed with ligatures."

The first operation performed by Dieffenbach was on the 26th Jan. of the present year. He adopted the third plan, that of excising a triangular portion of the root of the tongue. The patient, a boy 13 years of age, being seated on a chair and his head resting on the breast of an assistant, the tip of the tongue was laid hold of and drawn out with Muzeux's forceps, which were held by one assistant, while another with a blunt hook kept back the angle of the mouth. The operator then introduced the point of the knife, with its cutting edge directed upwards, into the left side or margin of the root of the tongue, and, having pushed it on through its substance to the point opposite to that where he had entered it, he then made a complete section from below upwards. Having then fixed the posterior edge of the wound with a strong suture, he seized with a forceps, provided with points, its anterior edge, and having thus compressed it laterally, he cut away a triangular piece of the entire thickness of the tongue. This done, he drew the posterior edge as far forward as he could, and by means of six strong points of suture he attached it to the anterior edge, carrying each thread deep into the substance of the tongue, so as to guard against subsequent hæmorrhage, which had been very considerable during the operation. We are told that, immediately afterwards, the boy was able to pronounce several words without at all stammering, (!) although the contortions of the face still continued. By the seventh day, the wound was completely healed : "there was not the slightest stammering, nor any convulsive movement of the face or lips during speaking ; the pronunciation was altogether pure, sonorous, and rapid ; and, even with strangers or when surprised, there was no impediment or interruption. Even the most difficult words he could pronounce as quickly as another person. Baron Humboldt examined him on the tenth day after the operation, and satisfied himself of the perfectness of the cure."

The second case was treated in the same manner as the preceding one, and with similar success. The youth, 16 years old, had stammered from the sixth year of his age, after an attack of pneumonia : most of his brothers and sisters were affected with the same impediment. Eight days after the operation, not only was the wound perfectly healed, but the tendency to stammering was entirely removed.

Equal success attended the performance of this operation in twelve other cases!

M. Dieffenbach has performed the operation of—

Simply dividing horizontally the Root of the Tongue in four cases ; in one it failed,* and in the other three the incisions had not quite healed at the date of

* It is worthy of notice that in this case, in which Dieffenbach himself admits that the operation failed, the stammering entirely vanished immediately after the operation ; it returned however, as bad as ever, in the course of two or three days. Is not this remark applicable to not a few of the cases which have been trumpeted forth in this country as cures ?—*Rev.*

his report, although the stammering had already entirely ceased in all of them. The operation consists in first securing the tongue, then making a transverse incision across its basis, and lastly bringing the edges of the wound together by several stitches.

The *third* operation, proposed by Dieffenbach, consists in

The subcutaneous transverse Section of the Root of the Tongue, leaving its mucous membrane undivided. He reasoned thus on the advantages and disadvantages of this mode of operating, before proceeding to adopt it in a particular case, where the tongue seemed to be shorter than usual: "On the one hand it seemed to me advantageous, in so far as that the posterior part of the tongue could not be well drawn forward, which necessarily rendered the application of any sutures more difficult; on the other hand, it seemed to me doubtful, in consequence of the difficulty of arresting the hæmorrhage, since it was scarcely possible to employ compression, and there was, therefore, the risk of a quantity of blood accumulating in the subcutaneous (or rather submucous) wound of the muscles of the tongue. Lastly, it appeared to me less certain of success, because there was not necessarily any shortening of the tongue produced by it, a condition which I deemed indispensable to effect a cure of stammering. The success of my first trial has, however, greatly exceeded by expectations."

The operation is entirely the same as the preceding one, with the exception of the mucous membrane of the tongue being not divided; the narrow *falciform bistoury* is plunged into the substance of the tongue at one side and carried across to the opposite side, dividing in its *trajet* the entire thickness of the muscles; it is then withdrawn, without dividing the mucous membrane, as in the subcutaneous operations practised so extensively by M. Guérin,

"The blood streamed out from both lateral wounds, as if it came from a large arterial trunk, and the tongue became much swollen by the blood which accumulated in the wound. To contract the width of this, I passed a strong suture from behind forwards, through the substance of the tongue, and thus closed the two lateral wounds or punctures made by the bistoury. The deglutition was considerably impeded for several days afterwards. The suture was removed on the fourth day, the union being complete through the entire depth of the wound, and on the eighth day the patient left his room. He no longer stammers in his speech, except with certain words difficult of pronunciation. This mode of operating," adds M. D., "presents more difficulty than the other two."

M. Dieffenbach closes his memoir with some practical remarks on wounds of the tongue in general. He observes that they almost always exhibit a marked tendency to unite very rapidly provided their edges be kept together by means of sutures. To effect this, the sutures must be strong, sufficiently numerous, and inserted deep, so that no empty un-united space exists at the bottom of the wound. Although the wound is usually united by the third or fourth day, it is well not to remove the stitches for a day or two longer.

The chief danger of wounds of the tongue is the risk of serious hæmorrhage; this is another reason for the employment of strong deep sutures, at short distances from each other.

M. D. tells us that he has tried, in several instances, the operation of dividing the *fænum linguæ* for the relief of stammering; but that it is entirely useless. His concluding remarks are so amusingly caustic, and withal so very just, that we must not deprive our readers of the pleasure of perusing them.

"At a time when it is so fashionable to modify every operation, however simple and good it is acknowledged to be, surgeons will have an ample field to propose modifications of the three methods which I have described above, and, also, to invent new instruments. They will, no doubt, be making incisions crucially, transversely, above, and below the tongue; they will be using caustics of various sorts; they will be employing curved bistouries and scissors of a new fashion,

and, also, other hooks, and other kinds of forceps; even to the very handles of the instruments, there will be some change or another introduced, for the purpose of permitting the light to fall better upon the cavity of the mouth. This new operation furnishes to the surgical antiquarian an occasion to devise new names; to them I leave the care of baptising it with a Greek appellation."—*Gazette Medicale*, 13 Mars, 1841.

Remarks.—It does not, we think, require the eye of a prophet to foresee that the operation—for the three methods proposed are only modifications of one—recommended by Dieffenbach, can scarcely ever be adopted by the scientific surgeon for the cure of stammering. Independently of the pain and difficulty attending its performance, and the risk of the serious hæmorrhage which may be induced, it is surely based on a merely conjectural, if not upon an erroneous, foundation. For, what reason is there to imagine that stammering depends on a shortening of the tongue? If such were its cause, how are we to account for the speedy cures which are every day effected by mere instruction, without any surgical operation being performed? And how shall we explain the immediate effects of surprise in aggravating the infirmity and of quietude in allaying it? That stammering is in most cases a purely spasmodic complaint, arising from some want in the normal equilibrium and co-operation of the muscles of speech, cannot, we think, for a moment be doubted, and that its cure is to be based upon the proper vocalisation of the voice, seems to be established by the circumstance of stammerers being usually able to pronounce the words in singing with perfect ease, and without any impediment. What then should induce us to fly to a surgical operation, and to the cutting and carving away of the tongue, or the tonsils and the uvula, or the frænum and base of the tongue, to relieve a defect which is certainly purely functional? And here it may be necessary to caution our readers not to allow their minds to be too much influenced by the reports of *immediate* success after the operations either of Dieffenbach, or of MM. Amussat and Lucas, whose plan consists in dividing the frænum linguæ and the hyo-glossi muscles, or of Mr. Yearsley, who has been very busy excising the uvula and portions of the tonsils of every stammerer that comes within his reach.

That any operation or plan of treatment, which causes a certain amount of pain, and will therefore have the effect of throwing the muscles of the throat and mouth into new contractions, may be followed by some relief to the stammering, we are not at all surprised: but we much doubt that the relief will almost ever be permanent.* As well might we propose to remove the convulsive movements of chorea, or the paralytic affections of hysteria, by surgical operations on the affected members; the cases appear to us nearly parallel.

In conclusion, we venture to predict that ere another quarter or two have passed, we shall hear very little of curing stammering either by cutting the tongue either above or below, or by excision of the uvula and tonsils.—*Rev.*

FATAL WOUND OF THE VERTEBRAL ARTERY.

One of the porters of the prison at Limoges was stabbed on the right side of the neck, at about an inch below, and a little in front of, the mastoid process. The

*The labours of the medical critic would be much lessened, if the foolish practice, more common we confess on the continent than in this country, of reporting cases of surgical operations almost immediately after their performance, and often before their ultimate results can be known, was discontinued: it is only worthy of an advertising quack.

assassin had struck him from behind, and the direction of the wound appeared to be transversely from without inwards. The hæmorrhage was frightful, and was evidently arterial. As the temporal and facial arteries on the wounded side still continued to pulsate, it was inferred that it was not the external carotid that had been divided. Was it the vertebral? or was it the internal carotid?

M. Voisin, deeming that it was the latter vessel, proposed to tie the common carotid, and immediately performed the operation. But the hæmorrhage from the wound continued as profuse as ever, and could only be checked by firm compression somewhat above the wound. At length it ceased; and on the sixth day after the accident, the wound was almost completely cicatrised. Three days subsequently, after walking about for a minute or two, a slight hæmorrhage returned; but this was quickly arrested by repeating the compression as before. On the following week, however, again it broke out; and, on removing the apparatus, the skin was found to be somewhat gangrenous, where the firm pressure had been made. Although the bleeding did not return, M. Voisin proposed to perform a second operation with the view of securing the upper end of the vessel that had been wounded. On making an incision through the integuments, a frightful stream of blood poured forth. This could not be stopped by compression either above or below the seat of the wound; but it was checked by keeping up firm pressure along the course of the occipital artery, behind the mastoid process. M. Voisin, supposing therefore that it was this vessel that had been injured, immediately set himself to tie it at its origin. The sterno-mastoid muscle was therefore divided at its upper insertion and the digastric was exposed, when the hæmorrhage returned with redoubled violence, and could be only arrested by pressure with the fingers at the bottom of the wound. As it was utterly hopeless to attempt placing a ligature, all that was done was to fill the wound with a compress and secure it in its place with a bandage. From this time to the period of his death, which occurred two days afterwards, the patient complained of pain and sense of powerlessness in his right arm.

Dissection..... "The vertebral artery was found to have been almost completely divided at the point of its exit from the third cervical vertebra, where it forms an arch to reach the aperture in the transverse process of the second vertebra.".....

Remarks.—The error in diagnosis of M. Voisin, as to the vessel that was wounded in the preceding case, is quite excusable; but certainly we must confess that in our opinion the second operation was quite unnecessary, and decidedly hastened the fatal event. To attempt ever to tie the vertebral artery must surely be unnecessary; the only thing that can be done under such circumstances, is to trust to compression, maintained rather by the hand of assistants than by any bandages applied round the neck and head.—*Gazette Medicale*.

ON THE TREATMENT OF RECTO-VAGINAL FISTULÆ.

M. Petrequin, the chief surgeon of the Hôtel Dieu at Lyons, whose name is not unknown to our readers, has published at great length a case of that most distressing and often intractable accident, rupture of the recto-vaginal septum, successfully treated by operation. He justly remarks, that it is to M. Roux that surgery is indebted for the most valuable suggestions and precepts on this subject. It was he who first substituted the *quilled* for the *interrupted* and the twisted sutures in the approximation of the edges of the wound, and it is to this important modification that the success of his operations is mainly attributable. Two years ago he had performed and adopted this practice in eleven cases; in six of these the patients were cured by the first operation; in two it required to be re-

peated a second time ; two patients died ; and in the remaining case the wound gave way on the 14th after the operation, during the effects of defecation. No other mode of operating presents so satisfactory a result—8 cures in 11 cases.

The following is an abridged report of M. Petrequin's case.

A woman, 28 years of age, had a protracted and severe labour with her first child : when the child was expelled, the perineum and recto-vaginal septum were found to be lacerated. Eight months after this date, she was admitted into the Hôtel Dieu at Lyons, under the care of M. Petrequin. The entire extent of the perineum was lacerated, and the laceration extended into the rectum for 14 or 15 lines in depth : the constrictor muscle of the vagina and the two sphincters of the anus, with the exception of a few fibres of the upper one, were divided ; the double ano-vulvar orifice was confounded in one large opening, and constituted a veritable cloaca, into which the excretions of the alimentary, the urinary, and the genital organs were received. The vagina and the os tincæ were the seat of minute ulcerations ; and the general health had suffered considerably. The patient was therefore treated for some time with injections of a weak solution of the chloride of lime ; and the os tincæ was occasionally touched with alum. After some time the general as well as the local health became much improved, and M. P. proceeded to the operation. The edges of the fissure being very finely pared, partly with the bistoury and partly with scissors, he inserted three curved needles, each armed with a double stout thread, through the two sides of the wound, taking good care that they penetrated to its deepest part. The ends of the ligatures were subsequently secured over two pieces of caoutchouc bougie placed along each side of the fissure.

As the lips of a wound always gape somewhat when a *quilled* suture is used, M. P. took the precaution of passing two stitches of the *interrupted* suture, so as to bring them in closer approximation.

The bowels having been kept open for several days before the operation, opium, in the form of extract and syrup, was given afterwards to confine them, and the patient was put upon a very low regimen in order to prevent the necessity of defecation for several days. A catheter was also left in the bladder, so that the patient could relieve herself, when necessary, by merely withdrawing the plug. The vagina was freed from any purulent or other discharge, by means of mild emollient injections, morning and evening. On the third day, the patient had a liquid stool without any prejudice to the sutures. There was no evacuation of the bowels again until the eighth day, and then without much effort : the edges of the cicatrix at the anus were slightly disunited in consequence. On the following day the stitches and the pieces of bougie were removed, the cicatrisation of the anterior three-fourths of the wound, at least, being by this time nearly complete ; the patient began to take vermicelli soup, and the dose of syrup of poppies was reduced to 16 *grammes*. On the eleventh day, there were two stools ; and again there was a very slight laceration of the cicatrix near the anus ; but the union in the perineum seemed to be complete.* On the eighteenth day, a superficial ulceration made its appearance in the perineum ; by touching it however with a portion of alum it disappeared in the course of two or three days.

As remarked by M. Roux, there remained in all his cases a small aperture of communication between the rectum and the vagina for a considerable time after

* M. Roux has remarked on the tediousness of the healing of the fissure near to the anus :—" In all the cases, the edges of the division next the anus were disunited or rather separated, although ultimately they closed. At this point the wound was slightly gaping, and looked like that which is caused by the operation for fistula ani. But this fissure has in every case eventually disappeared, and the anus has recovered its normal condition."

the perineum had completely united. M. Petrequin had for some days hoped that he had been more fortunate, and that the recto-vaginal septum had perfectly cicatrised, as no portion of a fluid injected into the vagina passed into the rectum. But this hope proved in a few days to be deceptive. With the exception of this minute aperture between the two passages, the whole extent of the fissure was completely cicatrised, when the patient left the hospital on the 15th of August, 35 days after the operation. Unfortunately the poor creature caught cold when she returned home, and was seized with fever; she was brought back to the hospital, a fortnight after her leaving it, in a dying state. On dissection, it was found that the circumference of the anus had been attacked with ulceration, which had been extending deeper and deeper in, so as to affect the sphincter muscle and give rise to two small fistulæ. The perineum however remained firm and perfectly united: and the recto-vaginal septum was closed, with the exception of one point, where an oval aperture, which communicated with the two passages, existed: its edges were hard and resisting. Thus the large lacerated opening, which originally existed, had been reduced to a small fistulous aperture; and we have every reason to believe, from the experience of M. Roux that this would have gradually closed.

In closing the report of this case, it is impossible not to admit the great superiority of the *quilled* over every other kind of suture in the treatment of recto-vaginal fistulæ. The introduction of this great surgical improvement we owe entirely to the sagacity of M. Roux.—*Gazette Medicale*.

RESULTS OF 643 CASES OF LITHOTOMY IN NAPLES.

These 643 cases occurred during the eight years from 1821 to 1828, and during the year 1839. Of the entire number 625 were in males, and 18 in females: 321 were in children, 262 in adults, and 60 in old people. (The exact periods of life are not stated.) The operation, which seems to have been the lateral one on all occasions, proved successful in 541 cases, and was followed by fatal consequences in 100 cases. This is very nearly the average rate of success of lithotomy in the practice of the most distinguished operators of recent times.—*Gazette Medicale*, No. 52.

TREATMENT OF CIRCOCELE BY OPERATION.

M. Jules Roux, one of the naval surgeons of the arsenal at Toulon, informs us that he has succeeded in effecting a cure in several cases of this unmanageable complaint by adopting the operation recommended by M. Reynaud, the *chef* of the surgical staff there, to effect obliteration of the varicose vessels. The report of the following case will enable our readers to understand the nature of this operation.

"A sailor on board the Montebello ship of the line, aged 27 years, applied to me for relief from a large circocele, which had long given him great inconvenience. He stated that from his infancy he had been affected with a varicose dilatation, not only of the spermatic veins on the left side, but also of the viens of the left leg, extending upwards along the thigh to the groin.

The spermatic veins form around the testicle, which is seemingly quite healthy, numerous nodose plexuses, of which the *ensemble* forms a tumor as large as the closed fist. The vas deferens is easily distinguished and separated from the venous mass which adjoins it. When the patient is at rest, and the atmosphere is dry, the tumor diminishes considerably, and gives him but little annoyance;

but when he stands up or moves about, especially if the weather be damp and relaxing, the veins become much enlarged, and the scrotum and cord are elongated."

The following operation M. Roux performed on the 15th of August.

Separating the vas deferens from the bunch of varicose veins, and keeping it apart with the thumb and forefinger of his left hand, he took a large curved needle armed with a double waxed ligature, and inserted it through the integuments of the scrotum, carrying it round the cord, and making it come out at the opposite point, but leaving the threads in. A circular compress of lint was placed between the threads and the skin of the cord, so that the compression which was made by tying them was more even and uniform. The pain was considerable; but it gradually subsided within the course of an hour, and only returned when the patient coughed or sneezed. Next day, the ligature was undone, and re-tied rather more firmly; this was repeated on the 17th, 20th, 22nd, 24th, 26th, and 28th of August, and again on the 1st of September, as the soft parts gave way under the constriction of the thread and cicatrized over it. Each time it caused considerable pain, which lasted from 10 to 30 minutes. On the third day after the operation, the edges of the little wounds became inflamed, and the inflammation gradually affected the entire scrotum and also the testicle; but no constitutional fever was induced. Emollient laudanised poultices were applied. On the 2d of September, the nineteenth day after the operation, the soft parts within the ligature being nearly divided, the narrow pedicle was cut across with a narrow bistoury introduced along the course of the ligature. Six days subsequently the patient left the hospital quite cured, and resumed his duties on board ship.

Two months afterwards he was examined. The testicle was of its ordinary dimensions and consistence; below the whitish linear cicatrix, which looked like a circular furrow, five or six cords, smaller and softer than the vas deferens, were distinctly felt; these were the impermeable spermatic veins. (Query, how is the testicle nourished, if the spermatic cord, with the exception only of the vas deferens, be divided across with a ligature, as in the preceding operation?)

M. Roux, it seems, has performed the same operation with perfect success in several other cases of circocoele: they are recorded in two memoirs, one in the *Gazette Medicale* for 1837, No. 52, and the other in the *Journal des Connoissances Medicales* for February 1839. He deems it altogether preferable to the operations recommended by MM. Velpeau and Breschet: the merit of it belongs to his *chef*, M. Reynaud, who in his opinion has "perfectionné ce point de pathologie chirurgicale."—*Gazette Medicale*.

RESULTS OF AMPUTATIONS IN THE FRENCH ARMY AT ALGIERS.

*Statistical Report of the Amputations performed in the Hospitals as well as in the Camps, during the Years 1837-8 and 9.**

These amputations amounted to 63; viz.

At the shoulder joint	-	-	-	-	-	6
At the elbow	-	-	-	-	-	2
At the wrist	-	-	-	-	-	6
At the knee	-	-	-	-	-	1
Of the foot, partial	-	-	-	-	-	1

* The operations performed in the campaign to Constantine in 1837 are not included in this report. The minor amputations also of fingers and toes are not given.

At the metatarsal joint	-	-	-	-	-	1
Of the thigh	-	-	-	-	-	16
Of the leg	-	-	-	-	-	7
Of the arm	-	-	-	-	-	15
Of the forearm	-	-	-	-	-	8

Of these 63 cases, 17 proved fatal; thus exhibiting a mortality of one in between three and four of all. It must however be mentioned, that of the 17 fatal cases, three of the patients were operated on under circumstances which held out very little hope of recovery; one received a fracture of the cranium as well as the injury of the limb which required amputation, one died of hæmorrhage during his transport from Tunis to the coast, and one died from the effects of an overfeed when he was going on most satisfactorily—so that the mortality attributable to the operation cannot perhaps be estimated higher than at 11 or 12 out of the 63 cases.*

(During the campaign of Constantine, when the army was exposed to the greatest hardships and to the most trying severity of weather, the mortality after amputation was on some occasions appallingly high. Thus of ten cases operated upon at Medeah in July 1837, one only proved successful; and of 62 at Blidah 39 proved fatal. The mortality was in proportion to the magnitude of the operation: thus of 30 amputations of the thigh, four only proved successful.)

Of the 63 cases, the operation was performed primarily or immediately after the injury in 44, and secondarily or consecutively in 19. Among the former, there were 32 cures and 12 deaths; and among the latter there were 14 cures and 5 deaths. It would therefore seem that quite as great success attended secondary as primary amputations. This however does not at all contradict that precept of our best military surgeons, at the head of whom we may justly place Baron Larrey, that immediate amputation should generally be performed after severe gun-shot wounds of the extremities: much anxiety and great inconvenience and trouble will thereby be spared to the operator. Dr. Guyon, the author of these remarks, after citing a number of instances in which success attended his secondary or consecutive amputations, says:—"In my opinion, the secondary operation presents at least as many chances of success as the primary, if performed on parts more or less distant from the trunk, and many more chances if performed on parts nearer the trunk of the body, such as the thigh or the hip-joint. We know that as yet there is not a single successful instance of primary amputation at this joint. In the case recorded by Guthrie, the operation was not performed till 15 days after the receipt of the wound. A certain degree of constitutional depression is very obviously a favorable condition for the performance of so formidable an operation as removal of the thigh at the hip-joint. It has been performed, but unsuccessfully, three times in the French army at Algiers."—*Gazette Medicale*.

TREATMENT OF ANCHYLOSIS BY RAPID EXTENSION.

Our readers are probably aware that a surgeon of the name of Louvrier was trying, in some of the hospitals in Paris, the practice of rapid extension of ankylosed joints by means of a powerful mechanical apparatus. We condemned the practice at once, as utterly inconsistent with all the principles of rational sur-

* Even at this estimate it would seem that the average mortality after amputations, at least in the military practice of the French surgeons in Africa, is nearly the same as that after lithotomy, as stated in the preceding article.

gery, and as attended with the most disastrous results to the unhappy victims who were experimented on.

As usual, the subject was communicated to the Royal Academy of Medicine, and became the theme of discussion among its learned members. An official report from the commission appointed to examine the practice has recently been published. The following *résumé* will enable our readers to appreciate its contents.

M. Berard (the reporter) said, that the operation of forcible extension of ankylosed joints had been performed in 22 cases: in three only had any troublesome consequences followed; in all the other cases the operation had no dangerous consequences (*resultat facheux*.) The greater number of the patients experienced, at the time of the extension, excessive suffering; and in not a single case had the affected joint recovered a perfect freedom of movement. In some cases, a certain degree of luxation of the tibia on the posterior face of the lower end of the femur was remarked: this was partly owing to the resistance opposed by the patella, which had become agglutinated to the front of the condyles, and to the atrophy of the articular extremity of the tibia. As to the three cases in which the operation produced dangerous or fatal results, we are given the following particulars.

In the first unsuccessful case, which was the twelfth on the list, the ankylosis of the knee was complete, and the flexion of the joint so great that the heel nearly touched the buttock. The application of the extending apparatus was followed by a considerable laceration of the integuments, and a luxation of the leg on the posterior part of the femur, and subsequently by a profuse discharge of purulent matter which proved fatal three weeks after the operation. On dissection, the knee-joint was found full of pus: the anterior crucial ligaments were in a softened state; one of the posterior ligaments was torn across, and to its torn surface a portion of bone which had been detached from one of the condyles still adhered; several of the muscles also were lacerated.

In the second case, the patient experienced dreadful suffering at the time of the operation, and remained in a state of insensibility for some time afterwards.—On the following day, an appearance of gangrene, attributable most probably to a rupture of the popliteal artery, shewed itself. Fortunately the gangrene became limited; and ultimately the patient recovered.

The third case occurred in a young girl, whose ankylosed limb was bent to nearly a right angle. The *redressement* being not complete, M. Louvrier applied a strong splint to the front of the joint, by means of which he proposed to complete the extension and prevent the shortening of the limb. On the following day however an eschar formed on the front of the knee, and the femur was found to have sustained a comminuted fracture; the patient died six weeks afterwards.

In another case, in which however the *redressement* was not followed by any accident, the patient died of a disease quite independent of the joint affection; and it was then found, on dissection, that the articular surface of the tibia was luxated on the posterior part of the femur, and also that the inner condyle had been fractured.

Considering therefore, says M. Berard, the comparatively small number of accidents after an operation apparently so frightful as the forcible extension of an ankylosed joint, the judgment which we should pass on the practice of M. Louvrier would not be so unfavourable, if its dangers were balanced by real advantages. But unfortunately it is not so; the limb remains almost immovable, and has very little more freedom than one made of wood. On the whole we are inclined to draw the following conclusions.

1. That the application of M. Louvrier's apparatus is usually followed by an instantaneous rectification (*redressement*) of the ankylosed limb;

2. That this rectification is not ordinarily followed by any dangerous accident either immediate or consecutive;

3. That the accidents however, when they do occur, are almost always frightful and generally prove fatal ;

4. That none of the patients treated by forcible extension has recovered entirely a freedom of movement in the ankylosed joint.

"We should therefore reply to the minister that the apparatus of M. Louvrier, however ingenious it may be, is of extremely dangerous application, for it will be always impossible to determine beforehand the nature of the existing ankylosis or to foresee the conditions which might offer some chances of success in employing it."

M. Larry expressed his concurrence in the conclusions of the report.

M. Gerdy condemned the apparatus of M. Louvrier altogether, and denominated his practice as worthy of a day-labourer or workman, rather than of a surgeon. The operation was violent, coarse, and unguided by any safe rules. "As a general maxim, we should never perform, on a human being, any operation, the consequences of which are more [serious than the disease itself. In the present day surgeons are too apt to forget or despise this fundamental principle of surgery as well as of humanity ; and too often we hear of rash experiments being performed in our hospitals, and in the presence too of students who have come to the metropolis to be educated, and who will hereafter carry into the provinces many a deplorable practice."

"I repeat," said M. Gerdy, "the surgery of the present times sins most by an excess of rashness : it resorts to operations at a mere venture, and without their being based on any sound and established principles ; it operates everywhere and on all occasions. In this manner we may no doubt succeed in making a trade of our operations, (*à faire de l'industrie, des opérations mercantiles*) ; but most assuredly we shall make no progress in our art, and science will inevitably be lost sight of in mere random speculation."

M. Velpeau adopted the conclusions of the report. He regarded the application of the proposed apparatus as highly dangerous, but nevertheless he did not entertain the same fears as most surgeons of the sudden rectification of the joint in ankylosis. The practice is not so dangerous as is usually imagined : we only want a *convenient* method of effecting it. He acknowledged that he had given M. Louvrier opportunities of trying his practice among his patients, and he did not at all regret that he had done so, as there was no other mode of ascertaining the results of new contrivances but by experiment.

THE PROGRESS OF MEDICINE IN FRANCE DURING 1840, (continued.)

In our last number (p. 530,) we gave the commencement of an abridged report of several papers by M. Guérin, the editor of the *Gazette Médicale*, on the progress of medical and surgical knowledge in France during the preceeding year. We stated that they present but a superficial view of so interesting a subject ; but that, however imperfect they are, they bring together a number of facts and statements, which may enable the English reader to form some idea of what is going on in continental medicine. We proceed therefore in our selections.

Pathological physiology, in the department of auscultation, has received some interesting contributions from MM. Piorry, Beau, and Raciborski. The first of these gentlemen has successfully applied plessimetry to determine the dimensions of the aorta, and to complete the diagnosis, hitherto imperfect, in numerous cases of dilatation of this vessel. M. Beau has contributed several papers in support of his peculiar views, that the various respiratory sounds of health, and also their modifications in disease, are merely the resonances or echos of the sounds generated in the glottis backwards along the bronchial tree. Dr. Raci-

borski has endeavoured to simplify the history of the moist *rales*, of which there are so many subdivisions described by Laennec and other writers. After shewing how much the characters of a moist *râle* are influenced by the age, the condition of the patient at the moment of examination, &c. he proposes to recognise only one kind or species of it, the *bullar râle*, as the primitive or essential form. There is nothing analogous to the characters of this sound in the state of health; hence, whenever it is heard, we may be assured that a morbid condition is present in some part of the respiratory apparatus. Its numerous varieties depend upon the larger or smaller size of the bullæ, on the more or less viscid state of the mucous secretion, on the consequent facility of expectoration, &c.

..... Pathogeny has been indebted to M. Langenbeck for a series of experiments which tend to prove the transmissibility of cancer from the human being to the lower animals. When cancerous matter had been injected into the veins of dogs, cancerous tubercles were found, on dissection some time afterwards, developed in the lungs. MM. Rayer, Leblanc and Berard have on several occasions repeated the inoculation of animals with glanderous matter taken from the human subject.

M. Triberti has pointed out the influence of light on the spasmodic phenomena of hydrophobia; it would seem, according to his statements, that hydrophobic patients can sometimes swallow in the dark with comparative facility. M. Dezeimeris has published a luminous memoir on the diseases of the epiglottis—and M. Barthez, Roger, &c. have shewn, from an extensive series of observations, that typhoid fever, hitherto regarded as of rare occurrence in children, is quite as frequent at this age as among adults. We must not omit to allude to the series of most valuable researches of MM. Andral and Gavarret on the changes of the blood in many of the most frequent diseases to which the body is liable.

..... In surgical pathology, the labours of M. Guerin, in illustrating the hitherto obscure subject of deformities, deserve especial notice. He has shewn that they are almost all attributable to a spasmodic retraction, which has in course of time become permanent, of certain muscles or sets of muscles, and that by the subcutaneous division of the retracted muscles—an operation at once simple and entirely void of danger—the deformity may be generally removed. In the extraordinary case, in which M. Guerin divided no fewer than 42 muscles, tendons, and ligaments in the same patient at one sitting for the cure of various existing deformities, the operation was followed by no unpleasant symptoms, and by a very marked *redressement* of every part that was contracted.

M. Bonnet has drawn the attention of surgeons, in an especial manner, to the positions of the limbs in cases of diseased joints: he has shewn that, by injecting fluids into the articular cavities in the dead subject, we cause the limbs to assume those directions in which we had ascertained anatomically and experimentally that there was an increase or enlargement of the intra-articular spaces. From this fact he infers that the positions of the limbs, in diseases of the joints, are the result of effusions, which render such positions necessary to lodge the excess of the effused fluid. M. Nichet has continued his beautiful researches on diseases of the spine: he shews that the destruction of the inter-vertebral cartilages often commences in the centre of these disks, without however exhibiting any traces of tuberculous degeneration, and he assimilates the gradual destruction of these cartilages to that of the cartilages of diarthroidal joints. M. Malgaigne has examined every question connected with the important subject of herniæ at great length and with much ability; and M. Velpeau has pointed out a new variety of inguinal hernia, in which the protruded gut has forced a passage through the abdominal wall between the tendon of the rectus muscle and the umbilical artery, and thence penetrated into the inguinal canal, leaving intact the external ring, and raising the aponeurosis of the great oblique muscle. This surgeon has also been trying some experiments with the view of effecting a radical cure of reducible herniæ. His plan consists in scarifying the inner surface of the herniary sac,

according to the *subcutaneous* method proposed, and so extensively adopted, by M. Guerin in performing the section of contracted muscles. M. Velpeau, it would seem, has not obtained complete success; but a M. Sotteau has been fortunate in one or two instances in which he followed a similar plan. And M. Maisonneuve has published an excellent paper on fractures of the fibula, and has proved that there are several other varieties of it besides those which Dupuytren and most surgeons have admitted.

Need we make any allusion to the new operation for the cure of squinting? Every journal, French and foreign, has teemed with suggestions and reports of cases. The operation is certainly an important addition to surgery; but there needs a good deal of discrimination in the selection of the cases in which it should be performed. Several surgeons have adopted the suggestion of M. Guerin to divide, according to the subcutaneous method, one or more of the muscles around old dislocated joints, in order to facilitate their reduction; and success in several instances has been thus obtained.

MM. Dieffenbach and Veinhold have reported two cases in which they effected the reduction of an old dislocation of the humerus by dividing (subcutaneously) the great pectoral muscle. M. Guerin has told us that he has made the subcutaneous section of almost every muscle of the body; and that, as already stated, in one patient alone he divided no fewer than 42 muscles, tendons, or ligaments at one operation, for various kinds of deformity, with the most satisfactory results.

Medical Pathology and Therapeutics.

M. Nonat has published some interesting observations on the relation that exists between intermittent fever and enlargement of the spleen—a relation to which M. Piorry had previously called the attention of physicians—and has pointed out a useful indication for the exhibition of quinine in such cases. He suggests that the amount and frequency of the doses should be proportioned to the degree and duration of the splenic enlargement, and that the use of the medicine should be continued until the viscus returns to its normal condition.

M. Levy also has examined this question, and has very ably shewn that intermittent fevers constitute one of the most complex and often obscure class of diseases, giving rise to a multitude of morbid states which are very diverse in their phenomena and effects, but which are all attributable to the same cause, and should all be treated in the same manner. Applying this truly philosophical idea to the development of ascites after agues, he has shewn that this disease is only a consequence, and will, like enlargements of the spleen and other analogous effects of the fever, generally yield to the judicious exhibition of the quinine.

As novel therapeutic suggestions, or as improved and better defined applications of former methods of treatment, we may allude to—1. The experiments and observations of Dr. Hudson on the employment of minute doses of the nitrate of silver in some complaints of the digestive mucous membrane; 2, the employment, by M. Sicherer, of full doses of calomel in typhus fever; 3, the use of emetics, repeated *coup sur coup*, in the treatment of croup by M. Jourdain; 4, of ammonia in diabetes; 5, of sulphur in angina pectoris, &c. &c. As a happy specimen of recurrence to genuine therapeutic analysis, we may cite the memoir of M. Mascarel on the treatment of pneumonia in old people by bleeding and large doses of the tartrate of antimony.

In toxicology some very valuable researches have been made during the preceding year. We may first cite the experiments of M. Blacke on the action of poisons: they tend chiefly to shew that poisonous substances act only by their being brought in contact with the nervous system, after passing through the circulation. The most important results of his inquiries may be stated to be:—

1. The time required for the passage of a poisonous substance through the walls

of the capillaries is inappreciable. 2. The interval of time that elapses between the absorption of a poison by the capillaries and its diffusion throughout the system, cannot exceed nine seconds. 3. There is, however, always a more considerable interval than this between the introduction of a poison into the capillaries or the veins, and the development of the first symptoms; and 4. A poison is found to act proportionately more quickly, the nearer the point at which it is introduced into the circulating system is to the brain.

M. Orfila has continued his most interesting researches on different poisonous substances, more especially the salts of arsenic, copper, and antimony, and has beautifully shewn how they penetrate, and may be recovered by chemical analysis from almost every tissue of the body. Independently of the numerous useful results which this indefatigable experimenter has obtained, our attention should be awake to the comprehensive character of the views which have directed all his labours. The pursuit of the poisonous substance, beyond the theatre to which science had hitherto limited its inquiries, opens a new æra in toxicology; and his multiplied experiments, distinguished as they have been not less by their rigorous exactitude than by their beautiful delicacy, have led him to an order of researches hitherto entirely novel, on the existence of various heterogeneous substances in the tissues of the body in a state of health.

The third and last article in the *Gazette Medicale*, on the leading medical events of the year 1840, is devoted to a brief review of the leading new works which have been published during its course. The *Essays on General Zoology*, by Isodore St. Hilaire, the elaborate treatise on General Physiology by Burdach, and translated into French by that prince of *traducteurs*, M. Jourdan of Paris, the Comparative Anatomy of the Nervous System in its relations with the intellect by M. Leuret, and the treatise on Physiology by Professor Duges of Montpellier, are mentioned with particular praise.

Among the most valuable publications on pathology, the new edition of M. Chomel's treatise is deservedly named, as replete with the soundest views and the most correct principles of practice. Then, too, the new edition of Andral's *Clinique Medicale* is, as might be expected, alluded to in the most flattering terms: it is styled to be "the work, the inspiration, the reflection of the epoch when it was composed, and under this aspect to hold a prominent place in the history of our last medical revolution; it is a work of transition, that is to say, it partakes at the same time of the characters of past times and of the spirit of the present day." The Philosophical treatise of Practical Medicine by M. Gendrin (reviewed in the *Medico-Chirurgical Review* for Oct. 1840) is noticed with some degree of favour. M. Louis has brought out a new edition of his treatise on typhoid fever, and has collected fresh proofs of the soundness of his conclusions, that the lesion of the elliptical groupes of the intestinal mucous glands is an invariable attendant of this disease. M. Forget, one of the professors of the school at Strasburg, in a work which he has published on follicular enteritis, thus alludes to M. Louis's researches:—"Preceding authors had *observed* the lesion in question; MM. Prost and Louis have *counted* it, and having met with no exception, they have erected, what in the opinion of their predecessors was only an accidental phenomenon, into a fundamental pathological fact; it is to statistics that we owe this magnificent result." M. Forget does not neglect to consider the state of the fluids as well as of the solids in typhoid fever, and he has thus blended in his work a Broussaisian Solidism with, what he calls, a rational Humorism. . . . In the department of surgical pathology and therapeutics, the treatise on External Pathology, by M. Vidal de Cassis, deserves to be named as a work remarkable equally for its perspicuity and candour as for its extensive erudition and good arrangement. We must not omit, too, the lectures on Clinical Surgery by that indefatigable writer, M. Velpeau, whose merits and whose faults are sufficiently obvious in all his writings.

Character of M. Velpeau.—"There can be no doubt that the surgeon of La Charité is not deficient in originally and power of invention. and that, moreover, he possesses a very extended knowledge of every subject that he treats of. But whenever these two qualities are brought prominently forward by an author, we very generally find that one proves injurious to the other. Now this is what occurs to M. Velpeau. He aims to pass for very learned; and his lectures, like his writings, and we may add, his practice too, present a living panorama of whatever is new abroad as well as in France. He has been aptly called the *great experimenter of the present time*, applying whatever others propose, and applying it too with a certain spirit of modification, if not of improvement. This arises from a disposition in his character to appropriate to himself every suggestion that he at all modifies, and to give a decided preference of his own manner of seeing and doing things to that of the original proposers. Now from this habit, praiseworthy we admit in principle, arise certain inconveniences which it may be worth while to note. M. Velpeau often does not make himself sufficient master of every subject that he canvasses and comments upon. Belonging to the school of sentiment rather than to that of experience, he judges of things at once, and from his first impressions, instead of waiting for the results of a complete and rigorous examination. In matters of actual practice, he is guided in the same manner. More ruled by the wish to improve than thoroughly to understand, he does not study with sufficient attention the various processes and methods which he applies; he persuades himself that what others have done is neither novel nor important, and whatever change he introduces acquires in his eyes a *brevet* of invention, and a right of personal property. This mode of seeing and doing things gives to the honorable professor a seeming want of gravity and of good faith, and accounts for the numerous accusations which have been brought against him. Perhaps these reflections are applicable rather to the encyclopediacal character of his mind, and of his mode of instruction, than to his teaching itself. Certain it is that, if his lectures aimed less at being so comprehensive, they would gain in accuracy and profundity what they lost in the novelty and variety of their details.

After specifying the titles of numerous works which have been published in France during the course of the past year, the writer closes his remarks by mentioning the names of the most distinguished surgeons and physicians who have died during that period—viz. Marc, Richerand, Bielt, Cloquet, Robiquet, Sedillot, Esquirol, and Landré-Bauvais, members of the Institute; also Graefe the eminent surgeon of Berlin, Omodei, the well known journalist of Milan, Professor Renchi of Naples, &c.—*Gazette Medicale*.

APPLICATION OF THE SOLAR AND OXY-HYDROGEN MICROSCOPE TO MINUTE ANATOMY.

M. Donné, whose name is doubtless familiar to our readers as one of the most promising physiologists in France at the present time, and who for several years past has devoted much time and study to the microscopical examination of the blood and other animal fluids, has recently addressed the Royal Academy on the applications which he has made of the solar and the oxy-hydrogen microscope, for the purpose of demonstrating the minute anatomy of the different elements of animal and vegetable structures, the composition of their various juices and fluids, the circulation of the blood and sap, the molecular arrangement of the nervous and muscular tissues, the development of pathological changes, &c.

(There is now a Microscopical Society in London, of which Professor Owen is President, and many of the leading naturalists of the day are members. There cannot be a doubt but that much *light* may be thrown on the minute anatomy of

healthy and morbid structures by the application of the extraordinarily magnifying powers of the oxy-hydrogen microscope.—(*Rev.*)

CASE OF GANGRENA SENILIS, WITH REMARKS BY M. ROUX.

The celebrated surgeon of the Hôtel Dieu objects to the common appellation, the gangrene of old people, given to this disease, on the ground of it not at all indicating the pathological alteration on which it depends. Formerly surgeons attributed this form of gangrene to a direct debility, and a diminished vitality of the parts affected; but the researches of morbid anatomy have shewn that it is the result of a lesion of the arterial system, which occasions the compression of the blood-vessels, followed by a more or less complete obstruction of their tubes. The cause of this obstruction may exist either in the interior of the vessels, or exteriorly to them, or in their parietes.

Another reason for his objecting to the name of the disease is the circumstance of it not being peculiar to old persons, as it is not unfrequently observed in middle-age, and occasionally even in young people.

The development of the gangrene is usually preceded by excruciating pains in the affected part; and in most cases it seems to be spontaneous. In not a few cases, however, some outward injury hastens its explosion and appears to act as the immediate exciting cause. M. Roux cited several instances in support of this fact; in some it was a sprain, in others it was a wound or blow, and in others it was the irritation from a mismanaged corn or bunion.

A man, 70 years of age, was recently admitted into the Hôtel Dieu for senile gangrene of the foot, the first symptoms of which had made their appearance some time before. He attributed it to an injury of the nail of the great toe. The gangrene gradually extended upwards to about a third the height of the leg; and there it stopped. M. Roux, after waiting a few days, amputated the limb, as he thought that the patient's strength was not sufficient for the protracted process of separation by natural efforts. The anterior tibial artery alone required a ligature; the posterior one was obstructed with a coagulum: the coats of the former were somewhat hard and partook partially of the alteration which the posterior and the other vessels had undergone more completely. Thus the gangrene of the limb was evidently owing to the obliteration of its arteries. Now such a state of the blood-vessels may take place in an acute as well as in a chronic manner, in consequence of an inflammatory condition of their lining membrane.

M. Roux alluded to a case of this sort in a young girl, whose arm he was obliged to amputate and who died; and to another case which occurred in a medical man's wife, during the season of the cholera, who died on the very day that the operation was to be performed. But this acute form of the disease is certainly of rare occurrence.—*Gazette des Hôpitaux.*

Remarks.—Our chief motive for having introduced these brief observations is to remind our readers of the suggestion of Mr. Syme of Edinburgh as to the proper treatment of senile gangrene. Mr. Syme objects to the usual practice of giving tonics and stimulants, and points out the great superiority of a lowering and antiphlogistic regimen, "by enforcing a strictly vegetable diet, abstinence from every sort of stimulant, and the maintenance of perfect quiet in the horizontal posture:" vide the last number of the *Medico-Chirurgical Review*, p. 549.—(*Rev.*)

NEW METHOD OF COVERING PILLS.

The plan proposed by M. Garot for this purpose appears to be very simple, and is said to be very effectual in most instances. It consists in dipping the pills for a moment in a solution of gelatine and allowing this varnish to dry on their surface. The only objection to this method is, that if the pill be soft, or if it contain any oleaginous or oleo-resinous matter, as copaiba balsam, the gelatine by contracting during desiccation firmly around the surface is apt to squeeze this matter out. This inconvenience however is obviated by adding a little gum and sugar to the gelatine that is used. The following is a good mixture for the purpose:—take of dry gelatine *one* part, pate de jujubes *seven* parts, and of water as much as is sufficient. These materials should be slowly dissolved in a sand-bath, so that the mixture may acquire the consistence of syrup. The pills are then picked up with a long needle and dipped in the solution. If they contain any oily or resinous matter, it will be well to give them a second coating afterwards, when they have become quite dry. The little aperture left by the needle should be afterwards closed by touching it with the solution. The mixture which we have recommended, dries almost as quickly as the pure gelatine, and, besides contracting less firmly, it has a pleasant taste in the mouth.—*Journ. des Connaissances.*

PILLS OF COPAIBA, TURPENTINE, AND CUBEBS.

Dr. Puche, of the Hôpital du Midi, recommends the following formula for pills which he has found to be very efficacious in the treatment of gonorrhœa.

Dissolve in a sand-bath some dried (*cuite*) turpentine in an equal quantity of copaiba balsam, and add to the solution as much cubebs powder as may be sufficient to form a consistent mass. The pills or boluses may then be covered with a double coating of the gelatinous mixture mentioned in the preceding article.

M. RAYER'S FORMULA FOR THE INTERNAL USE OF COD-LIVER OIL.

Take of Cod or skate-liver oil 90 parts.
 Gum Arabic..... 10 —
 Water. 60 —
 Syrup of Opium 60 —

These ingredients are to be well rubbed together, until the mixture is quite smooth and uniform. M. Rayer has employed this remedy in numerous cases of chronic pneumonia. He has given the pure oil in several cases of chronic gastritis, when the stomach has been able to bear it: sometimes, however, it is necessary to add a few drops of laudanum to the dose.

UTILITY OF ALUM IN DISEASES OF MUCCOUS MEMBRANES.

The action of alum, as a local application, seems to be extremely beneficial in the various forms of inflammation and ulceration of the different mucous membranes of the body. Thus, in stomatitis or the membranous inflammation of the lining membrane of the mouth, in angina tonsillaris and pharyngea, in some affections of the larynx, in deafness dependent upon an obstruction of the

Eustachian tube, in numerous diseases of the vagina and cervix uteri, &c. this remedy has, when judiciously used, been productive of the greatest advantage.

M. Delmas, one of the physicians of the Montpellier Hospital, has recently published an interesting report of his practice with this agent: and from it we derive the following observations.

It may be unnecessary to allude to various affections of the throat, as the use of alum in the form of a gargle is well known in such cases to all practitioners; but few perhaps are aware of its great utility in some of the forms of ulceration of the generative organs in both sexes. M. Delmas has derived great advantage from its employment in those large but superficial ulcerations which are so often found to exist in women affected with leucorrhœa. In the majority of such cases, the neck of the womb is more developed than in health, is very sensibly tumefied, and sometimes presents on its vaginal surface large granulations, which bleed on the slightest contact, and occasionally resemble some form of cancerous ulceration; these are the cases in which the *alleged* cures of cancer of the cervix uteri have been reported to have been effected. M. Delmas congratulates himself at having arrived at nearly the same conclusions as M. Recamier. This distinguished physician has used alum very extensively in various forms of ulceration of the uterus, and with the happiest results. Although it cannot cure cancer, it is often found to induce an advantageous modification in the diseased action of the adjacent tissues, and thus to retard very materially the progress of the greater evil.

M. Delmas has used alum not only in numerous affections of the mucous membrane, but also in the solutions of continuity of the skin. Here the application of it gives rise to much more decided effects, and the pain which it occasions is sometimes so intolerable that it may be necessary to moderate its action by incorporating it with cerate, and by adding, if requisite, some preparation of opium. It is more especially when the ulceration of the skin is connected with a syphilitic condition of the system that we find it expedient to act in this way; for in those old chronic sores, which seem to have acquired a sort of right of domicile in the part, we are seldom obliged to modify the dressing. One of the most remarkable cases, which has occurred in the practice of M. Delmas, was observed in a patient affected with elephantiasis. The right leg had become swollen to three times its natural size, and had been for a length of time the seat of an ulceration which occupied the entire lower third at least of the limb. The case had resisted every means that had been tried at different times, and the poor fellow's constitution had in consequence become seriously impaired. After a month's dressing with alum (it is not stated whether it was applied in the form of a powder, or mixed with cerate, or dissolved) more than two thirds of the extensive sore was firmly healed.

.... "In applying alum powder to solutions of continuity of the skin, it is sometimes necessary to mix it with lard, in consequence of the pain it occasions when applied alone. The form of dressing which I most frequently employ, says M. Delmas, consists in covering the wound with a thin layer of the powdered alum, and on the following day putting an emollient cataplasm over it, the use of which should be continued until the crust formed by the alum falls off. When this takes place, the surface of the wound is usually found to exhibit a more or less deep red colour, and from this we are to judge whether the application should be repeated or not."

The result of his general experience are summed up in the following conclusions:—

1. That alum acts as a local application in inflammation of mucous membranes by at once counteracting it and causing the morbid process to *abort*.
2. That when applied to solutions of continuity of these membranes, it greatly promotes the healing process, and that its action is never injurious in the hands of a judicious practitioner.

3. That it quickly determines the cicatrisation of ulcerations of the skin ; but that its effects in such cases require to be watched, in consequence of the pain and re-action which are sometimes apt to be induced.

4. That in syphilitic ulcerations alum is a powerful local remedy, more especially when the constitutional disease has been already combatted by appropriate general treatment.—*Journal de Med. de Montpellier.*

CASES OF TETANUS CURED BY LARGE DOSES OF MORPHIA USED INTERNALLY AND ENDERMICALLY.

A young soldier was bitten rather severely in the hand by an insane patient whom he was attempting to restrain. Next day, after being exposed to the heat of a strong sun, he lay down in a field and fell asleep for some hours. In the course of the same evening, he experienced a general *malaise*, accompanied with headache, &c. On the subsequent day he was seized with violent contractions and jerking movements of the muscles of the back and neck, and with rigid stiffness of the limbs, alternating with strong convulsive twitches, so that it required five or six men to keep him in bed. The paroxysms, after lasting for several minutes gradually subsided ; but the intervals between the attacks did not exceed a few minutes. He was bled, and was ordered to take a quarter of a grain of acetate of morphia every half hour ; he was then put into a hot bath, and a blister applied between the shoulders, the vesicated surface to be dressed with three quarters of a grain of the morphia, and this to be repeated every four hours. The doses of medicine were gradually increased ; the patient was again bled, and he had 3 or 4 more blisters applied along the back, and repeatedly dressed with morphia. By persevering in this mode of treatment, the symptoms gave way by degrees ; and on the fifth or sixth day after the invasion of the attack, the patient was convalescent. He took upwards of 20 grains of the morphia by the mouth, and nearly the same quantity was applied, in the course of five days to different blistered surfaces.

Within a fortnight after his recovery, he was brought again to the military hospital with a relapse of the convulsive paroxysms : indeed they seemed to be even more severe than on the former attack. So forcible and violent were the contractions of the muscles of the back and neck, that the attendants were afraid that he might either be strangled or break a blood-vessel within the head ; for every now and then it was dashed backwards with terrible force. The trunk of the body too, supporting itself at two points on the occiput and on the buttocks, while the spine formed a concave arch, was almost continually bounding upwards with so much violence, as to threaten injury to the viscera within, as well as to the outward parts that were bruised. This attack seemed to have been brought on by intemperance. A similar treatment was followed with like success as on the former occasion.—*Journal des Connoiss Med. Chirurg.*

Remark.—It is not quite correct to call this case one of tetanus ; for it is evident that the muscular convulsive contractions were of the *clonic*, and not of the *tonic* kind. We should rather regard it as partaking of the characters of epilepsy and hysteria combined—a complication by no means unfrequent in youths of both sexes.—*Rev.*

CLINICAL REVIEW.

GUY'S HOSPITAL.

GUY'S HOSPITAL REPORTS, No. XII. April, 1841. Edited by GEORGE H. BARLOW, M.A. &c. &c. and JAMES P. BARINGTON, M.A. &c. &c.

The present number contains the following articles :—Observations on Epilepsy ; read to the Physical Society of Guy's Hospital, 1841, by B. G. Babington, M.D. F.R.S.

On Poisoning by Arsenic ; the quantity required to destroy life ; by Alfred S. Taylor.

Some further Illustrations of the Safety-Valve Function of the Heart ; by T. Wilkinson King, (with plate.)

Statistical Report of Guy's Hospital Lying-in Charity, from October, 1833, to October, 1840 ; with Cases and Observations ; by John C. W. Lever, F.S.S.

Report on the Value of Electricity, as a Remedial Agent in the Treatment of Diseases ; by Golding Bird, M.D. A.M. F.L.S. &c.

Observations on real and supposed Pathological Conditions of the Urine ; by G. O. Rees, M.D.

Some observations on Stricture of the Urethra, Catheterism, and False Passage ; founded on post-mortem inspection ; by Edw. Cock.

Cursory Observations on some Cerebral Affections of Children ; read before the Physical Society of Guy's Hospital ; by H. Marshall Hughes, M. D.

On the Existence of Arsenic as a Natural Constituent of Human Bones ; by G. O. Rees, M.D.

Observations on the Absorption of Metals into the Blood, in cases of Poisoning ; illustrated by an account of a case of poisoning by lead, occurring in a cow under the care of Mr. Cherry ; by Alfred S. Taylor.

Account of a Fœtus in Utero, invested by False Membrane ; by Henry Oldham, (with plate).

Cases of Incised Wound of the Knee-joint, of Fluid in the Thyroid Body, and of Abnormal Thymus Gland. Communicated by Sir Astley Cooper, Bart. with plates.

MISCELLANEOUS CASES ;—Case 1. Bone passed from the Urethra. Communicated by Mr. Bransby Cooper.—Case 2. Deficiency of the Pectoral Muscles. Reported by Mr. Alfred Poland, (with plate.)—Case 3. Sequel of a Case of Stricture of the Urethra ; by Bransby B. Cooper, F.R.S.—Case 4. Case of Fæcal Abscess. Reported by Mr. Caleb Taylor, (with plate.)—Case 5. Ulceration of the Stomach, terminating Life by Hæmorrhage. From the Note Book of the late Mr. Bryant, (with plate.)

Case of a remarkable Enlargement of the Female Breast ; by S. Ashwell, M.D. (with plate.)

Observations on the Laws which regulate the Deposition of Tubercles ; with Practical Inferences applicable to the Prophylactic Treatment of Phthisis ; by G. H. Barlow, M.A. and L.M.

History of the last Illness of Sir Astley Cooper, Bart. ; and Examination of the Body after Death.

We shall run over these papers in succession, and select the principal points in them for notice.

I. OBSERVATIONS ON EPILEPSY. By B. G. BABINGTON, M.D. F.R.S.

It is the object of this paper to give some illustrations of epilepsy, and to offer

some reasons for thinking that it depends on a functional, and not a structural change; and some grounds for the belief, that in many instances it admits of cure. Dr. Babington is of opinion that women are more frequently affected than men. He thus alludes to the occurrence of epilepsy in the lower animals.

"The meagrim, sturdy, or turnsick," says Blaine, 'may be considered as a species of epilepsy, to which horses are not unfrequently subject; and in which, without previous notice, the animal, if in exercise, stops short, shakes the head, looks irresolute and wandering; in which state he continues a few minutes, and then proceeds as before. In more violent cases, he falls at once to the ground; or first runs round, and then sinks senseless. The whole system appears agitated by strong convulsions; the horse dungs and stales insensibly; is at some times violent, and at others more passive, but is equally unconscious of every thing around, in both. After remaining a longer or shorter period in this way, his faculties return, and he rises.'—3d Edition, p. 471. Dogs and cats are also subject to a loss of consciousness, under which they fall down and struggle; and caged birds are often similarly affected."

Dr. Babington relates a case in which there were first distinct epileptic seizures and afterwards paroxysms of mere temporary loss of consciousness, unattended with falling or with convulsions. He considers these allied to the former. He adds—"Such I hold to be the nature of the case in a lady of my acquaintance, 73 years of age, who for the last two years has been observed occasionally to lose consciousness for a few seconds while reading or speaking; so that she will stop suddenly in the midst of a sentence, as if her attention had been accidentally arrested by some external circumstance. After this pause, she feels confused; and at length, becoming collected, will proceed with her sentence as if nothing had interrupted her. She evidently desires, however, to conceal what has occurred, and is annoyed if any notice is taken of the circumstance. What is commonly called absence of mind seems to be somewhat allied to this state although a still slighter aberration of intellect: and with persons who are subject to this affection of the sensorium, it will sometimes happen, that in the midst of a narrative they will suddenly forget the thread of their discourse and a degree of obliviousness or confusion will for a moment ensue, which bears a near resemblance to the slight epileptic seizures which I have been describing." Perhaps it is rather too hard on absent people to look on them as little better than epileptics. Absence of mind very frequently, nay most frequently, depends on its over-occupancy with a particular train of ideas, rather than on the interruption of consciousness. The attacks of semi-insensibility have been described as epileptic in their character by others. Esquirol, for instance, alludes to them.

Dr. Babington relates a good many cases which we do not think it necessary to insert. They illustrate the principal and too familiar features of epilepsy.—He remarks, in reference to the *aura epileptica*—it is not necessarily connected with epilepsy at all; being sometimes felt by those who suffer from *cardialgia*, *pyrosis*, and other symptoms of *dyspepsia*. A near relative of my own furnishes an example. He is much subject to headaches, dependent on a disordered state of stomach; under which he ejects, by a kind of ruminating action hardly amounting to retching, large quantities of acid fluid. These attacks are often ushered in by a sensation of tingling in one arm, which mounts up from his fingers' ends and gradually advances towards the face on the same side, affecting one half of the tongue, palate, and lips."

Dr. Babington compares epilepsy to sleep, to the torpor produced by *mesmerism*, and institutes several parallels of this sort. As a sample of his reasoning we may quote a brief passage.

"If an analogy be admitted between the phenomena of cramp and those of the suspension of consciousness in epilepsy, I might be led to suspect that both are dependent upon some change of position in the nervous molecules, having the effect of cutting off nervous influence; and, that so long as this change of posi-

tion continues, they are either no longer capable of discharging at all, or cannot discharge in an orderly and normal manner the functions which they are destined to perform."

Our author's notion of the pathological nature of the malady will be seen not to differ materially from that entertained by most well-informed men.

"Post-mortem examination, where it exhibits any appreciable deviation from health, leads to the same conclusion. All kinds of lesions, of the bones of the cranium, whether from accidents or original malformation, of the membranes of the brain, of the substance of the brain, of the position of the brain by adventitious growths or hydatids, of the medulla oblongata, of the spinal marrow, and of various remote organs, have been found in connexion with epilepsy; yet all of such various kinds, as to lead to a belief that it can only be one and the same specific effect on the nervous system, which is remotely and secondarily induced by each. That specific effect, for want of a more precise notion of it, I must call irritation; and as even various kinds of mental emotions are capable of producing it, I am here again led to the conclusion, that it is not in its essence an organic change, but merely some temporary alteration in the arrangement or position of particles."

With Dr. Babington's *methodus medendi* (†) we may conclude.

"Where the irritation, which I suppose to be the proximate cause of epilepsy, is complicated with and remotely dependent on organic change of structure, we cannot of course expect that treatment, of whatever kind, will either effect a cure of the disease, or throw any light upon its cause. Again: where it is combined with a state of plethora—never occurring but when the person is in a horizontal position, or after a full meal, and attacking those whose habit is gross and circulation forcible—means, the opposite of those which would be adapted to remove the proximate cause, may be needed. Bloodletting may be necessary, as well as active evacuates, and an antiphlogistic line of treatment; but, with these exceptions, it is my belief that the same class of remedies which is best calculated to give tone to the system under *tic dolooureux*, and other spasmodic states of the nerves of motion and sensation dependent on nervous irritation, is also most applicable to this disease; and that the various preparations of bark, of iron, of arsenic, of silver, or of zinc, are those from the administration of which we shall derive the greatest advantage. Of the sulphate of zinc, I have lately made more frequent use than of any of the rest; and as it has proved efficacious in some cases, I shall conclude by an allusion to one or two of the most striking. Like all other remedies, it will often fail; but whether useful or not, it has the merit of being a safe remedy, and that when continued for a longer period, and in very much larger doses than is usually supposed. Those large doses seem sometimes, though by no means always, essential to its efficacy; and the method of reaching them, without producing nausea, is by a gradual increase, as in the case of emetic tartar. Thus Frances D— (page 5), to whom I have more than once alluded, was enabled to take thirty-six grains, three times a day, for several weeks, without its producing any sickness or other untoward effect. This, in her case, was the maximum tonic dose; for when she took forty-two grains, which she continued to do for one week, she lost her appetite, and felt much sickness."

II. ON POISONING BY ARSENIC. THE QUANTITY REQUIRED TO DESTROY LIFE. By ALFRED S. TAYLOR.

Mr. Taylor shews that much difficulty exists in determining the minimum dose of arsenic, capable of destroying life. A witness is often asked the question.

Dr. Smith states, in his *Analysis of Medical Evidence*, that on a trial which took place at York in 1816, the medical witness, in reply to a question of this

kind, said, that *sixty* grains of arsenic would produce violent vomiting; that two drachms, in his opinion, would be sufficient to destroy life; although it would require at least *one ounce and a half* of that which is commonly sold in the shops. The evidence of this witness must have been very erroneously reported; or he must have been ill-informed on the subject on which his opinion was asked. As some extenuation, however, of this unfortunate specimen of medical evidence, it is proper to observe, that it was very much the practice, formerly, to adulterate white arsenic with plaster of Paris, or other innocent powders. It is not unlikely that this practice may still continue in some parts of the country.

Mr. Taylor, however, has not found any impurity of this description in specimens of arsenic obtained from various London chemists.

According to Hahnemann, *two grains* of arsenic might suffice to destroy life in the course of a few days; but he adduces no case in support of this opinion. Dr. Christison, in his *Treatise on Poisons* (2d ed. 1832), states, that the smallest dose of the solid poison, which he has read of, amounted to *thirty* grains of the powder. This dose proved fatal in six days. The smallest actually fatal dose which he has found recorded, was four grains and a half; but in this case, the subject was a child four years old; death took place in six hours. In this instance, the poison was taken in solution.

Mr. Taylor thinks it certain that a much smaller quantity than thirty grains of this poison would destroy life. Our means of getting at the fact is to shew what are the largest quantities that have been taken without proving fatal, excluding those instances in which a large quantity of arsenic has been swallowed, in some bulky menstruum, or on a full stomach, owing to which early and violent vomiting has sometimes ensued, and the parties have ultimately recovered.

"Again, in considering this question, it is necessary to determine, whether age, sex, peculiarity of constitution, or the state of bodily health, may not influence the operation of this poison. In respect to *age*, it appears to be established by many cases, that arsenic more powerfully affects an infant than an adult; and it is not improbable that an aged and infirm person might be killed by a dose from which a younger person would recover. In respect to the influence of *sex*, I am not aware of any facts from which a definite opinion can be drawn, or, indeed, that attention has been directed to this point; it is however certain, that fatal cases of suicidal poisoning by arsenic are much more common among females than males.* That arsenic affects some *constitutions* more than others, appears to be well established from its employment in medicine. One patient is observed to be seriously affected by a dose which scarcely has any influence on another; and there are persons to whom arsenic cannot be administered at all. In making an estimate of the quantity requisite to destroy life, this point must not be omitted; for although the poison may be in comparatively small doses, fatal to all constitutions, we have here an explanation of the fact, that, *ceteris paribus*, from the exhibition of the same dose, one person may die and the other recover. Lastly, with regard to the state of *bodily health*;—we cannot refuse our assent to the view that when the body is weakened by disease, it is possible that this active poison, in a certain dose, would operate fatally on one who might have recovered from its effects had he been in ordinary health. We are, I think, in the absence of facts, entitled to draw this inference, from the general principle, that a diseased state of body is favourable to the action of most noxious agents."

Mr. Taylor points out the fallacy which may attend conclusions drawn from experiments on animals. He mentions an instance. In a case tried at Leicester

* This is probably owing to the fact, that suicide by poison is much more common among females. Males generally destroy themselves by cutting the throat, hanging, drowning, or by fire-arms.

some years ago, several medical witnesses gave strong evidence against a prisoner charged with poisoning a female. From the rapidly fatal effects of the poison (hydrocyanic acid) on dogs, they inferred that this must have been a case of murder, and not, as it was alleged in defence, of suicide. Fortunately for the prisoner, this evidence against him was set aside by circumstances, which proved that the deceased must have designedly taken the poison herself. This case, with some others which might be adduced, establishes, that we are not justified in forming a positive opinion of the fatal doses of poisons in men, from experiments on animals, however numerous or well conducted they may be.

Dr. Lachèse of Angers, has inferred that a smaller dose than two grains may prove fatal. Thirteen persons were poisoned by partaking of bread into which arsenic had been wilfully introduced. They all suffered from the usual symptoms of arsenical poisoning, but recovering in the course of a few days. This was thought to be a favourable case for estimating the effects of arsenic in a certain dose; and, accordingly, the bread was submitted to a quantitative analysis, by several eminent chemists. According to the opinions of some of these chemists, the proportion of arsenic was about half a grain to each pound of bread; and, on inquiry, it was found that those who had partaken of the bread could not have eaten less than a quarter of a pound, and therefore must have taken about *one-eighth* of a grain of arsenic.

This dose, according to Dr. Lachèse, has no other effect than that of inducing speedy vomiting;—it does not affect the mucous membrane of the stomach, nor does it become absorbed.

In the cases where from half a pound to a pound of bread had been eaten, *i. e.* where from *one-quarter* to *one-half* grain of arsenic had been swallowed, more decided symptoms of poisoning were manifested. The mucous membrane of the stomach was seriously affected;—the irritation was speedily propagated to the intestines;—thence followed pain in the abdomen, nausea, vomiting—the vomited matters holding sufficient arsenic to give rise to an acrid sensation in the œsophagus. The nervous system also began to be affected by the poison.

Some of these persons, not suspecting the cause of their illness, partook of the bread the following day; and the symptoms of arsenical poisoning appeared under an aggravated form, being accompanied by vertigo and great prostration of strength.

From these and other observations, Dr. Lachèse was led to infer that *one-eighth* of a grain of arsenic may seriously indispose a healthy adult,—that from *one-quarter* to *one-half* grain will give rise to all the symptoms of poisoning,—and that in the dose of from one to two grains, arsenic may cause death.

Mr. Taylor justly remarks:—Allowing that the chemical analysis in this case; was correctly made, it is difficult to understand how the arsenic should have been so uniformly mixed with a hundred pounds of bread, as to justify the inferences drawn respecting the effects of particular doses. One part of the dough may have received more than another; whereas the conclusions are made on the assumption, that the poison was equally diffused, and that each person took a fractional portion of arsenic, according to the weight of bread consumed.

On the whole, it will be seen that there is considerable difficulty in admitting that the arsenic was thus equally diffused through the bread; and hence we cannot place much confidence in the conclusions.

Mr. Taylor mentions a very remarkable case which occurred in town in October, 1839.

A gentleman was dining with a party at the house of a friend. After dinner, the wine was passed round as usual; when, in the course of a short time, three of the persons present were seized with symptoms indicative of poisoning. The gentleman having observed that those only suffered who had partaken of port-wine, immediately suspected that the wine was poisoned. The whole of it was put back into the bottle, and sent to Mr. Taylor the next day for chemical examination.

The wine was clear, of the usual colour and odour, and possessed all the characters of good port-wine. There was a small quantity of fine white sediment at the bottom of the bottle. Mr. Taylor suspected that the poison was arsenic, and such proved to be the case—that substance being dissolved in the wine, and the undissolved substance consisting of it nearly in a state of purity. The quantity in solution amounting to 28.8 gr. and the undissolved sediment consisting of about 60 grains.

The quantity of wine taken by each of the persons present at the dinner was pretty accurately ascertained.

1. A child, aged sixteen months, took about two teaspoonfuls, and therefore about two fluid drachms. This quantity of wine contained 0.3, or about one-third of a grain of arsenic. In about twenty minutes this child became sick, vomited severely for three hours, and then recovered. The child was the first affected ; it did not complain of pain, and its sickness was supposed to be owing to some other cause.

It is remarkable—considering what appears to be well established, that arsenic severely affects young children—that this child should have suffered so little from so large a dose. Admitting that one teaspoonful of wine only had been taken, this would have contained one-sixth of a grain of arsenic ; a quantity sufficient, we might *à priori* imagine, to produce the most alarming symptoms, if not death, in so young a subject.

2. A lady, aged 52, took a wine-glassful ; excepting the two teaspoonfuls, which she gave to the child. In from thirty to forty minutes, she complained of a general feeling of uneasiness, for which she could not account ; she suffered no pain, but vomited violently for four hours. She then recovered. This lady could not have taken less than *one grain and a half of arsenic*.

3. A gentleman, aged 40, drank a glass and a half of the wine. About twenty minutes afterwards, he complained of feeling unwell, and took some brandy. Vomiting came on which lasted for three hours ; but this gentleman did not entirely recover from the effects of the poison until after the lapse of several days. He could not have taken less than *two grains and a half of arsenic*.

“All these cases,” observes Mr. Taylor, “agree, in the absence of pain ; the only symptoms of arsenical poisoning which they exhibited, were, the violent vomiting, and prostration of strength. To what are we to ascribe the recovery of the two adults, from doses of arsenic which would commonly be set down as sufficient to kill ? It will be observed, that in estimating the quantity of poison taken by these persons, I have only considered that which was actually dissolved in the wine. It is possible, with a freshly-decanted bottle, that some of the finely-levigated powder may have been mechanically suspended in the wine, and swallowed by them. Confining ourselves to the portion really dissolved, we learn, by these cases, that a dose of arsenic amounting from one grain and a half to two grains and a half may be taken by an adult, not only without destroying life, but without even exciting very formidable symptoms.

It does not appear reasonable to attribute this exemption to peculiarity of constitution ; since this would be rather an evasion than an explanation of the difficulty. It must also be made applicable to all who suffered ; the child as well as the adults. Perhaps a more correct view is, to attribute the escape of these persons to the fact, that the poison was taken on a full stomach, after a meal ; and that, becoming mixed up with the half-digested food, it was speedily and effectually ejected by vomiting. The fact of exemption, under these circumstances, was long ago observed by Morgani. This explanation would apply at least to the two most difficult cases ; namely, to the two adults, who took so large a quantity of the poison.”

After some further remarks, he adds—“It appears to me to be a subject for further inquiry, whether this poison may not be taken in a much larger dose than is commonly supposed, without destroying life. Can we say it is impossible that

a person should recover after having taken five or ten grains? or would a witness be justified in swearing that such a quantity of this poison must necessarily destroy life? These questions should, I think, at present be answered in the negative. All that we are justified in saying, is, that, judging from the effects of smaller doses, these quantities would *probably* kill; but that nothing certain was known as to the quantity which would constitute the lowest fatal dose of the poison. If a witness answered the above questions affirmatively, a court of law would probably require good grounds for the affirmative answers, or at once reject them." And no such grounds appear to exist.

Another point touched on by Mr. Taylor is the source of the arsenic in the wine. It had been, he says, according to his information "procured, as usual, from a wine-merchant. Bottles of wine from the same stock had been previously consumed without giving rise to any symptoms of poisoning. In short, from all I could learn, this appears to have been a solitary bottle poisoned in the stock. There is something calculated to excite the most painful feeling, in the idea that wine should be by any accident produced, at a private table, containing upwards of eighty grains of arsenious acid: and we cannot but regard it as a most fortunate circumstance, that, out of ten or twelve persons present, not more than three should have partaken of this wine, and in so small a quantity. Three or four glasses of the wine, perhaps even less, would probably have destroyed the life of an adult.

It appeared that the poison could not have been placed in the wine after it had been decanted; and there was no doubt that the bottle had not been interfered with, since it was first corked, and sent by the wine-merchant. Suspicion was immediately directed to the possibility of shot having been left in the bottle, this being known to contain a portion of arsenic, used in the manufacture to give it hardness: but when the bottle was delivered to me, there was no shot, nor any traces indicative of shot having been left in it. The white sediment was quite free from the presence of lead. The wine, although acid, probably from tartaric acid, contained no traces of lead dissolved; and altogether it seemed unnecessary to pursue this inquiry further. He did examine into it, however, and seems to have ascertained that the arsenic present in dust shot probably weighs no more than 1-200th the weight of the lead. As a single pellet weighs about two grains, this would give 1-100th grain of arsenic for each. Thus, allowing this to be an approximate estimate of the largest quantity of the poisonous metal likely to be present, it would follow, that an ounce of dust-shot would contain, on the average, about *five grains* of arsenic, in the state of arseniate and arseniuret of lead.

It will now be seen, from this calculation, that to have produced the quantity of arsenious acid present in the poisoned wine, it would have required the separation of arsenic from about eleven ounces of shot! But even admitting that the arsenic in each pellet was in the large proportion of 1-50th grain—a very improbable supposition—it would have required at least *five ounces and a half* of shot to have produced the quantity of arsenious acid discovered in the bottle. It is not likely, that, under any circumstances, so large a quantity of shot should have been accidentally left in a bottle; nor is it likely that all the arsenic should be thus extracted from the shot, without the lead becoming at the same time separated, and the wine strongly impregnated with the metal. But in this case, no soluble or insoluble salt of lead had been produced."

Mr. Taylor introduced some shot in which arsenic had been ascertained to be present, into some port and some sherry wine. They were not contaminated. And it, therefore, seems unreasonable to anticipate danger from this source. The following observations are of the first importance.

"Enough has been said to shew that the wine, in the case related, could not have derived its impregnation with arsenic from shot left in the bottle; and this unfortunate accident remains to be accounted for in other ways. The only explanation which occurs to me, is, that the bottle must have been used for con-

taining the poison previously to the wine having been put into it. Thus arsenic is largely used by shepherds, as a lotion to kill the fly in sheep ; also by farriers and others, for veterinary purposes. It is also sold as a bug-poison. Bottles, thus used for containing the poison, are bought by pedlars ; and when a sufficient number is accumulated, they are sold. It is in this way that poisoned bottles may pass into the hands of wine-merchants, without their being aware of it ; and unless more than usual caution is employed in cleaning them, the wine put into them will become poisoned, and give rise to serious consequences. The rinsing of the bottles, or even allowing them to soak in water, will not remove the arsenic effectually ; for this commonly exists in the interior, adhering to the sides or edges in the form of a hard crust. Bottles which have contained poisonous substances of this kind should always be destroyed. Public attention has not been sufficiently drawn to this subject, owing to a want of a vigorous system of medical police ; but I have reason to believe, from attending to the numerous cases of poisoning which have occurred within the last ten years in England, that many cases of this kind have occurred, especially with stone bottles such as those which are used for the sale of ginger beer, in the streets of London. The illness or death has been ascribed to cholera, or some imprudence on the part of the affected person, when the real cause was probably some irritant poison.

About the same time that the case, which I have described, occurred in London, one somewhat similar happened in France. A father and son were seized with severe vomiting, immediately after their supper. It was found, on examination, that the wine which they had drunk was poisoned with arsenic, and was the cause of the symptoms. The iron antidote was administered, and they both recovered the following day. Some other members of the family, who had drunk the wine, were seized with vomiting. A large quantity of arsenic was found at the bottom of the bottle. It was presumed that the two persons who had suffered most severely had taken more than sufficient to occasion death ; and that they would probably have died, had it not been for the timely application of the antidote. There is but little doubt that the bottle had been used for an arsenical lotion.

An interesting case is related by Dr. Christison, where six persons suffered severely from taking arsenic in champagne, while dining at the house of a friend, a baronet in Roxburghshire. The quantity of arsenic calculated to have been taken by each adult amounted to one grain. They all recovered. In this case, the wine was traced to have been sent poisoned by arsenic from a wine-merchant :—no doubt accidentally, and probably from the bottle having been previously used for an arsenical wash.

The following case will corroborate the view that has been taken of this source of accidental poisoning.

In August, 1836, four persons of a private family in Jersey were seized with alarming symptoms of poisoning, after a meal. One of them, a lady who had been in a declining state of health, speedily sank under the symptoms : the other three recovered. It was at first thought that hemlock had been put into the broth by mistake ; but the medical attendant, finding that the symptoms were those of irritant poisoning, directed his attention to the liquids which had been used at the meal. It appeared that some perry, contained in a stone bottle, had been drunk ; and it was then suspected that the glaze in the bottle might have impregnated that acid liquid with a poisonous dose of lead. The bottle was washed out but no sediment was obtained, and it was therefore broken by the medical practitioner. He then found, at the bottom of the bottle, a thick incrustation of an earthy looking substance, in quantity exceeding an ounce, which adhered so firmly to the bottle, that it was necessary to remove it with a sharp knife. This substance, on examination, turned out to be arsenious acid, without any admixture of lead. The symptoms in all, and the cause of death in one of the persons were thus satisfactorily explained.

In the opinion of the examiner, the arsenical crust had been there for some years. No washing or concussion of the bottle would have sufficed to dislodge it; and owing to the bottle being opaque, its presence never could have been suspected.

The history of this unfortunate case was, that a quantity of stone bottles had been purchased at Liverpool, for the purpose of bottling the perry which had been supplied to the deceased and her friends; and from the appearance of this bottle, no doubt could exist that it had been, at some previous time, used as a receptacle for bug-poison.

Considering the whole of these facts, I am inclined to believe that this is the true solution of the cause of the wine having been poisoned in the case narrated in this paper: and that, except in the great caution used by respectable wine-merchants, the public have no protection against such accidents being of much more frequent occurrence than they are."

III. STATISTICAL REPORT OF GUY'S HOSPITAL LYING-IN CHARITY, from Oct. 1833, to Oct. 1840. WITH CASES AND OBSERVATIONS. By JOHN C. W. LEVER, F.S.S.

The Lying-in Charity attached to Guy's Hospital, we are informed, was founded by the Treasurer, at the close of the Autumn of 1833, for the purpose of providing poor women with medical attendance and medicines at their own habitations, during their confinement. Females who live within a reasonable distance from the Hospital, and are fit objects of this Institution, may avail themselves of its benefits, by entering their names in a book kept at the office of the charity. The Institution is managed by a Physician Accoucheur, two Assistant Accoucheurs, and a Female Attendant, to whom all applications are to be made. Pupils who are desirous of attending women during their confinement enter their names and residences at the office; but those only who have attended lectures, and are considered competent, have cases consigned to their care. The patients are allotted to each pupil by the assistant accoucheurs; who, in the distribution, keep in mind the residences both of pupil and patients, and the experience of the former, with the probability of a difficult or complicated labour. The Regulations of the Institution require a pupil, as soon as he receives a letter, to call on his patient; and if unavoidably prevented from attending her, he must give immediate notice at the office of the charity. Pupils are not permitted to administer the *secale cornutum*, nor to use any obstetric instrument, without the sanction or presence of one of the assistant accoucheurs, or of the physician accoucheur. The Regulations further require, that if a patient has been in labour for more than twelve hours after the discharge of the liquor amnii, if there be any preternatural presentation, or if any unusual or urgent symptoms supervene, the pupil in attendance must obtain the advice of one of the assistant accoucheurs. After a patient's confinement, she is to be seen daily during the first week, and as long after as her condition may require. The letters given to the patients have blank certificates at the bottom; which pupils are required to fill up after delivery, stating the sex of the child, whether alive or still-born, the day of birth, &c. Each pupil is required to give into the office a report of the labour, stating its nature, &c.; and if deemed requisite, he must furnish a daily account of her symptoms, treatment, &c. These Regulations have been most strictly observed since the establishment of the institution; and they have been found not only to ensure the greatest attention towards the patients, but also to the pupils ready advice and assistance, affording all the clinical benefits of a Lying-in Hospital.

From 1833 to 1840, 4666 women have been attended by the pupils attached to the Lying-in charity.

A table is given with the view of showing the number of women confined in

each month, in seven years, extending from 1833 to 1840. It appears that in May the greatest number of confinements have taken place, and in October the least. The months run in the following order:

May	September	August
December	January	November
March	July	June
February	April	October

These results differ from those published by MM. Quetelet and Villermè. The order of births among the town and country population of the Low Countries, during the twelve years from 1815 to 1826, was as follows:—

COUNTRY POPULATION.	TOWN POPULATION.
February	February
March	March
December	January
April	April
January	December
{ October }	November
{ November }	September
September	October
May	May
August	August
June	June
July	July

From another table it seems that the greatest number of women have been attended in their first confinements, and that the number gradually lessens in amount as the repetitions of pregnancy increase; for which there are obvious reasons.

Table III. distinguishes the sex in 4432 children born alive. Of these 2318 were males—2114 were females. Table IV. distinguishes the sex in 263 still-born children. Of these 157 were males—106 were females.

From a careful examination of these tables, it will be seen, that the proportion of males to females born alive is as 52.3 to 47.6; and the proportion of males to females still-born is as 59.69 to 40.3.

By comparing the two tables, it will also be evident, that there is an excess of 7 per 100 in the males still-born, as contrasted with the males born alive; and a corresponding defect of 7 per 100 in the females still-born, as compared with the females born alive. It also appears that the ratio of children still-born to the children born alive is 5.6 per 100. Dr. Collins, in his admirable "Practical Treatise on Midwifery," states, that during his residence as Master at the Dublin Lying-in Hospital, out of 16,654 children born, 1121 were still-born; this will give a ratio of 6.7 per 100. Casper, in his "Über die Sterblichkeit der Kinder in Berlin," gives the following Table:—

Places.	Births, for one Still-birth.
Strasburgh	11
Hamburgh	15
Dresden	17
Paris	19
Berlin	20
Vienna	24
London	27
Brunswick	33
Stockholm	36

The mean of this table will be about 1 still birth to 22 births ; differing from the result of the Berlin Registers, which, kept for a period of sixty years gives 19.8 as the mean.

The results of the Registers of Amsterdam from 1821 to 1832 give the number of births at 7282, and the number of still births at 430 ; making the proportion 1 still birth to 16.9 births.

At Paris, the " *Annuaire du Bureau des Longitudes* " give the following results :—

From 1823 to 1832, Births 287,639

Still Births 16,190:

the proportion being 1 still birth 17. 7 births.

Table V. shews the varieties of labour in 263 cases of still-born children. And—

Table VI. shews the varieties of labour in 4666 women, attended between October, 1833, and October, 1840. We must content ourselves with a summary of them.

It appears, says the reporter, that 4290 labours were natural ; being in the proportion of 91.9, or nearly 92 per 100. Of this number, in 4266 cases the vertex presented, or in the proportion of 99 in 100. The cases of face-presentations amount only to 24, or 1 in 179 cases. The following is the comparison between Guy's Charity and other Institutions.

Proportion.

Guy's.....	1	Case in 179.
Mme. Boivin.....	1	- - 275.
Merriman	1	- - 350.
Dublin Hospital.....	1	- - 504.

Of the 4266 cases of vertex-presentation, in 103 the children were still-born ; viz. in the proportion of 1 in 42, or 2.4 per 100. In six of the 24 face-presentations, the children were still-born ; or 1 in 4, or 25 per 100 ; this mortality exceeds that of children born under the same presentation in the Dublin-Lying-in Charity, which was 1 in 8, or 12 per 100. The following Table will shew the duration of labour in the 24 face-presentations :—

Hours.

Duration.....	2	5	7	8	9	10	12	13	14	15	18	21	29
Number of Cases.....	1	1	2	3	1	5	3	1	1	1	3	1	1

Premature Labours.—By referring to the Table, it will be seen that 55 labours are reported as premature ; of this number, 6 were induced. Of the 49 labours that spontaneously occurred, 40 children were still born, or 81.6 per 100. The ratio of premature still births to the total is 15.2 per 100. In the Dublin Lying-in Hospital, the ratio was 26.2 per 100. Six cases of premature labour are reported as having been induced. Of this number, one woman was admitted as a patient of Mr. Key's, in Dorcas Ward, labouring under osteosarcoma of the knee, involving the lower half of the femur, and the heads of the tibia and fibula ; her case is reported at length in Guy's Hospital Reports, Vol. I. p. 324. Labour was induced in the remaining five cases, to supersede the necessity of perforation ; that operation having been resorted to on previous occasions, to accomplish delivery, the pelvic diameters being seriously abbreviated.

The following table will shew the method of operating ; the length of time that elapsed from the period of induction to the commencement of pain ; and the completion of the labour, the presentation, and the event to the child.

No.	Method of Induction.	Hours before occurrence of Pain	Hours before completion of Labour, after operation.	Presentation	Event to Child.
1.	Puncture, & Tinct. Secale	27½ hrs.	50 hrs,	Nates,	Still.
2.	Puncture	12 ..	20 ..	{ feet abd anterior }	Still.
3.	Puncture	12 ..	40 ..	Nates	Still.
4.	Puncture	132 ..	138 ..	Vertex	Alive.
5.	Separation of Membranes	11 ..	27½ ..	Vertex	Still.
6.	Puncture	2 ..	7½ ..	Vertex	Still.

From this table, it will be seen that only one child was born alive, and that under a vertex-presentation ; and it is remarkable, that, in this case, labour-pains did not commence until the expiration of 132 hours ; and did not terminate until the expiration of 138 hours from the period of operation.

The following table will shew the results of the practice of other operators :—

Mr. Barlow	-	-	-	-	{ operated 16 times ; and in 2, premature labour occurred spontaneously }	18	
Dr. Denman	-	-	-	-	- in 12 Cases	7	Children
Mr. Marshall	-	-	-	-	.. 4 ..	1	born alive.
Dr. Merriman	-	-	-	-	.. 33 ..	13	
Dr. Hamilton	-	-	-	-	.. 45 ..	41	
Guy's Lying-in Charity	-	-	-	-	.. 6 ..	1	

Protracted Labours.—In 62 women the labour was protracted, being in the proportion of 1.32 per 100. The chief causes which led to the protraction of labour, were, imperfect uterine action ; rigidity of the soft parts ; disproportion between the head of the child and the pelvis of the mother ; firm and extensive ossification of the foetal head not allowing of compression.

In 16 cases out of 4666, delivery was effected by the instrumentality of the secale cornutum, making a proportion of about one case in 293 deliveries. These cases were the most favourable that could possibly offer for the exhibition of this drug : in them the presentations were natural, the parts fully prepared to admit with safety the passage of the child, and nothing but uterine pains appeared to be wanting to complete the delivery. In these cases the secale acted speedily and effectually. The preparations of the drug administered, were, the pulvis ergotæ, the tinct. ergotæ, and the ethereal tincture of ergot. Mr. Lever adds :—

Of this latter preparation I can speak with the greatest confidence, having upon several occasions tested its efficacy and value ; and in fact, I may say, when I have exhibited it, it has never failed to accomplish the object I had in view. It was first prepared for me by my friend Dr. G. O. Rees ; and his method of preparation was published by me in the Medical Gazette of April 4, 1840. To dose I exhibit is m. xxx. to m. xl. given in sugar. In 21 cases only was delivery effected by the embriospastic instruments ; viz. 9 by the forceps, and 12 by the vectis ; or about 1 in 222. In 25 cases, the operation of lessening the child's head was had recourse to, being in the proportion of 1 in 187 deliveries. If we add the number of women delivered by the vectis and forceps to the number delivered by the assistance of the perforator, we shall have 46 instrumental deliveries in 4666 cases, or in the proportion of one case in about 101 deliveries.

The following table presents the proportion of Instrumental Deliveries at other Institutions.

Dresden, Dr. Carus	....	....	....	1 in every 13
Berlin, Dr. Kluge	....	....	....	1 15
Heidelberg, Professor Naëglè	....	....	....	1 28
Marburg, Dr. Siebold	....	....	....	1 9
Vienna, Dr. Boer	....	....	....	1 96
Paris, Madame Boivin	....	....	....	1 183
Dublin Lying-in Hospital, Dr. Collins	....	....	....	1 114
New Lying-in Hospital, Dr. Beatty	....	....	....	1 99
Wellesley Dispensary, Dr. Maunsell	....	....	....	1 34
London West. Gen. Dispensary, Dr. Granville	....	....	....	1 80
Dr. Merrimann, (private practice)	....	....	....	1 98
Guy's Hospital Lying-in Charity	....	....	....	1 101

In 3 cases only the long forceps were employed: in the remaining 6, delivery was effected by the short forceps. 5 children, out of the 9 delivered by the forceps, were still-born; and but 1 out of the 12 delivered by the vectis. The causes of perforation, in the 25 cases in which this operation was had recourse to, were, deformity, and abbreviation of the pelvic diameters; abnormally-developed foetal head; an unusual degree of ossification; hydrocephalic head; rupture of vessel in the vulva and great effusion of blood, with subsequent laceration of mucous membrane.

A rather amusing and instructive case is detailed of a hydrocephalic head requiring puncture to admit of delivery. The mother had joined the tea-totalers during her pregnancy, and after confinement she gave them up as all moonshine—no one being able to persuade her that the water in her child's head was not due to the immense quantity she had drunk!

In no case of protracted labour has there been long sloughing of the urethra, nor any case of fistulous communication between the urethra and vagina, or vagina and rectum.

Preternatural Labour.—The cases of preternatural labour amount to 109, or 2·33 per 100: the number of still-born children amounts to 60, or 54 per 100. In Dr. Collins's report of the Dublin Lying-in Hospital, the number of preternatural labours amount to 506, or 3 per 100; the number of still-born children to 228, or 45 per 100. The nates-presentations were 59; and of these deliveries, 30 children were still-born. In the Dublin Lying-in-Hospital, the nates-presentations amount to 242; the still-births to 73. In the Guy's Lying-in Charity, the footling cases were in number 29; the still-births 16. In the Dublin Hospital, the footling cases were 127, the still-births, 62. In the Guy's Charity, the presentations of the upper extremity were 15, the still-births, 10. In the Dublin Hospital the presentations of the upper extremity were 40; the still-births, 20. The funis-presentations amounted in Guy's Charity to 6: in 4, the children were still-born: whereas in the Dublin Hospital the presentations of the umbilical cord amounted to 97; the still-births to 73.

Complex Labour.—The number of cases of complex labour amount to 94; or 2·01 per 100. The number of still-births amount to 19; about 1 in 5, or 20 per 100. Of these 94 cases, 33 were twin labours; or 1 in 141 of the whole number of women delivered, being 0·7 per 100. The number of twins still-born amount to 6.

The following tables will shew the proportion of the sexes in twin labours, and also the nature of the presentations:—

No. of Cases.	Both Males.	Both Females.	One of Each Sex.
33	11	11	11

Nature of Presentations.

Nature of Presentations.			
Vertex in both	15	Vertex in both. Face in one	} 1
Vertex and Nates	7	situated externally	
Vertex and Foot	5	Nates in both	2
Vertex and Shoulder	2	Nates and Foot	1

The proportion of twin-births is small, when compared with the returns of other Lying-in Institutions. In France, the proportion is said to be 1 in every 95 births; in Germany, 1 in 80; in England, 1 in 92; in Scotland, 1 in 95; and in Ireland, 1 in 62.

In 14 labours, continues Mr. Lever, presentation of the placenta has occurred: in 9 the placenta has entirely covered the os uteri, while in 5 it partially presented: in all, delivery was accomplished by the operation of turning. Eight of the children were still-born: in one, the head was unavoidably lessened, owing to the contracted state of the pelvis: (this operation had been resorted to in her previous labour). Presentations of the placenta have been more than four times as numerous in the patients of the Lying-in Charity of Guy's as among those of the Lying-in Hospital of Dublin: for whereas, at Guy's, 14 cases have occurred among 4666 women, only 11 cases in 16,414 occurred at the Dublin Lying-in Hospital during Dr. Collins's Mastership; and out of the eleven, 5 children were still born, 2 of them being putrid.

Retained Placenta.—These cases, amounting to 37, include those where the placenta is not expelled from uterine inaction, as well as those where there was morbid adhesion. 15 cases of the latter are recorded; and it is worthy of notice, that in 12 out of the 15, the placenta was adherent to the anterior and upper part of the uterus, as ascertained by the introduction of the hand to effect the removal. In the former cases, the uterus was stimulated to contract, in some instances by the introduction of the hand, but in the majority by the exhibition of the secale cornutum.

Puerperal Convulsions.—Four cases of this distressing complication have occurred; being in the proportion of 1 to 1166. The particulars of the four cases are briefly recited. In all, the children were born alive, and the mothers recovered.

Dr. John Clarke, in his abstract of 10,387 cases, has 19 cases of convulsions, 17 before delivery, and 16 cases of first pregnancy: 6 of the mothers died. Dr. Merriman states, in his "Synopsis, p. 141," that 28, out of 36 cases of convulsions which he had witnessed, were instances of a first pregnancy; and that in two of that number there were twins. Dr. Collins states, that 30 cases occurred, during his Mastership, among 16,414 women: 29 were in women with their first children: and the remaining case was a second pregnancy, in a woman who had suffered in a similar manner in her first labour. The 30 women attacked gave birth to 32 children, two of them having had twins. 14 children were born alive: 20 of the children were males: in 18 cases of the 30, the convulsions subsided after delivery: in 10, the fits occurred both before and after; and in 2, the attack did not come on till after delivery. Five of the women died.

Of *Epileptic Mania*, always occurring after delivery, there was a fatal case, and there was a case of *Puerperal Mania*, which was sent to Bethlem.

Labour complicated with Typhus Fever.—Of this there was an interesting case which did well.

Rupture of Uterus.—Three cases of ruptured uterus are reported as having occurred during the seven years embraced in this Report: they hold a proportion to the other cases, as one in 1555 cases: they all occurred in one year, 1839-40, and two within three days of each other. All proved fatal. They are related

circumstantially, but we need not introduce them. Mr. Lever remarks on them,—

"These cases are replete with interest. In the first, the only one examined, there was old chronic disease of the womb; and at that part where the uterine tissue had degenerated, the laceration had occurred. In the second, every thing that could possibly be administered was done for the patient, with the exception of the employment of the ant. pot. tart. Should such a case again present itself, I shall most certainly prescribe the tartar emetic, in full nauseating doses. This remedy, of all others, seems to have the greatest power in controlling or cowering uterine action; and since the occurrence of this case, I never allow myself to be without some of the mineral in my possession. In the third case, it is hard to say at what time the laceration took place; as none of the symptoms occurred suddenly, but came on very gradually, and almost imperceptibly; so that it was probably only owing to my going fresh and unbiassed to the case, that I was led to suspect the occurrence of an accident which Mr. Wright, an able and cautious pupil, had not imagined. For my own part, I cannot but believe that the violence to which this poor woman was subjected by her Irish charmer was the immediate and sole cause of the laceration."

The *charm*, to which Mr. Lever alludes, consisted in the gentleman's getting upon the bed, raising the woman to an upright position on the floor, and then lifting her up and down four or five times like a paviour's rammer, uterine efforts continuing all the while!

Flooding Labour.—The number of cases of flooding labour amounts to 51, or 1.09 per 100. Under this division are included 16 cases of accidental hæmorrhage before the birth of the child; 20 cases of hæmorrhage after the birth of the child, and before the expulsion of the placenta; and 15 cases occurring after the expulsion of the placenta. In the 16 cases of accidental hæmorrhage, rupture of the membranes was successfully practised, and only 2 children were still born. In 12 of the 20 cases of hæmorrhage before the expulsion of the placenta, manual assistance was had recourse to, assisted by the exhibition of the different forms of the ergot already mentioned, and the other adjuvatory measures so well known.

Fatal Cases.—The number of fatal cases that have transpired during the seven years, is 40, or about 1 in 117. At the Dublin Lying-in Hospital, the proportion of women dying in child-bed was 1 in 100. A good and useful abstract of the cases is furnished, but we refer our readers for it to the original. This statistical paper reflects credit upon Mr. Lever.

IV. REPORT ON THE VALUE OF ELECTRICITY, AS A REMEDIAL AGENT IN THE TREATMENT OF DISEASES. By GOLDING BIRD, M.D., A.M., F.L.S., &c.

Our able friend Dr. Bird has conducted a series of experiments on the remedial effects of electricity with great care, and his report is likely to be very serviceable. "In October, 1836," he says "the Treasurer, Mr. Harrison, appropriated an apartment in the hospital for the purpose of submitting patients to electrical treatment. In this room, all the apparatus required for the administration of electricity to the sick is kept in a condition fit for immediate use. The out-patients, as well as those from the various wards, attend at this room daily, at three o'clock; notes of their cases are taken by one of the Students, who acts as clinical clerk, and in my absence directs their treatment. A competent female attendant resides in apartments attached to the room, for the purpose of keeping the apparatus in order, and applying electricity to the female patients. In this.

manner, every case is registered; its progress watched by the pupils; and any change of treatment is directed by myself, for which purpose it is my duty to attend on two days during the week."

After pointing out the identity of electricity and galvanism, and stating the distinction which exists between them—viz. that whilst in both we have the very same form of matter, in the former we have a small quantity very concentrated, in the latter a much larger proportion in a dilute form. Dr. Bird goes on to remark:—

"When a person is placed on a stool with glass or other non-conducting legs, and connected with the prime conductor of an electrifying machine in action, his whole surface becomes, by induction, powerfully electro-positive; and combination, by silent discharge, is constantly occurring, by absorption of negative electricity from the air; this may be seen to take place luminously in the dark, especially about the hair, eyelashes, fingers, &c. During this luminous discharge, heat is evolved, the circulation becomes quickened, the secretions generally become more active, and perspiration breaks out. A person thus situated is said to be in an *electric bath*; and it is by no means improbable that this might be frequently employed with advantage in certain affections in which the functions of the skin and mucous membranes are deficient. The evolution of heat during this silent discharge is sufficient to demonstrate the mode in which the physiological effects alluded to are produced, and was I believe first pointed out by a former pupil of my class, Mr. Thomas Smith, now of Maryport, who performed the duties of clinical clerk in the electrical room, with the greatest zeal and attention, during several months. This gentleman coated the bulb of a delicate air-thermometer with tinfoil, and connected it with the conductor of an electrifying machine; silent discharge took place from the coated portion; and the coloured fluid fell in the tube upwards of an inch, from the expansion of the included air by the heat evolved.

If, whilst a person is connected with the prime conductor, and his whole surface is highly positive, or exposed to the electric bath, any conducting body connected with the earth, as the hand or a metallic ball, be brought near him, it becomes highly negative by induction; and when sufficiently near, the negative electricity combines with the positive of the person's body, producing a vivid flash of light and a snapping noise, forming the disruptive discharge, or what is called the *electric spark*. The person who is the subject of this experiment feels a sharp pungent sensation at the spot where the spark occurred: and in delicate skins, a small circumscribed wheal is produced, surrounded by a little inflammatory blush; this much resembles lichen urticatus, and generally disappears within an hour from the time of its production.

If an electric jar be charged, and the communication between its outer and inner surfaces be made through the medium of the human body, a peculiar stunning sensation, known as the *electric shock*, is produced. This seems to depend upon the neutralization of the electric condition of the jar producing disruptive discharge; and the physical conditions for its production are identical with those required for the spark, from which it differs only in its more intense effects, arising from the larger surface under inductive influence.

When the influence of a large quantity of electricity is deemed desirable, we have recourse to that form denominated galvanic or voltaic electricity. This is readily excited by various forms of chemical action; but, for medical purposes, is more conveniently procured in a state of high tension by means of magnetic or electro-dynamic induction, various contrivances for effecting which are described in all works on Physics. The apparatus I prefer is that described in a Paper I published some few years ago; and may be briefly described thus:—A bundle of soft iron wire is placed in the centre of a wooden reel or bobbin; around which is wound a quantity of stout insulated copper wire, having its two ends free, for the purpose of being connected with a single pair of plates of

copper and zinc exposed to chemical action ; over this is wound about 1300 feet of very thin insulated copper-wire. The two ends of this coil are furnished with directors, for the purpose of being applied to any portion of the body or limbs required. If, then, one end of the inner coil be removed from the battery, the constraining inductive force previously exerted on the thin coil is removed, and all the electricity naturally present in it is discharged through the portion of the body or limb touched by the director, producing an electric shock. By adapting a piece of apparatus for mechanically breaking contact with the simple battery employed, a series of shocks can be sent through a limb, either very slowly and mildly, or at the rate of two thousand or more in a minute ; producing such a rapid succession of discharges, as to give rise to a sensation amounting to insufferable torture.

In one or other of the three latter modes, electricity has been employed at the hospital ; viz. in sparks, shocks from a jar, or shocks from the electro-magnetic apparatus last referred to.

CHOREA.

A considerable number of cases of chorea, or St. Vitus's Dance, as it is popularly termed, varying in intensity and in the circumstances connected with its cause and development, have been submitted to electrical treatment since the publication of Dr. Addison's Paper on the use of Electricity in certain Spasmodic Affections, in a former number of these Reports. Of these cases, notes of thirty-six have been preserved in the Report Book ; the histories of the others not being complete, from the irregular attendance of the patients. Dr. Bird presents a table of these cases. Of these 29 were cured—5 were relieved—one patient left from alarm—and one found no relief ; Dr. Bird observes that it must be born in mind, that, in many of these cases, remedies were administered during the application of electricity ; and thus the reports of such lose a certain amount of their value ; but in the majority of instances, the medicines administered contemporaneously with the application of electricity were confined to occasional purgatives. It is indeed notorious, that some medicines of this class often produce a considerable alleviation in the paroxysms of chorea, and occasionally are sufficient to cure the disease without the aid of other remedies ; but, still, every practitioner must admit that this is not the constant result ; and it must not be forgotten, that, in very many of the cases here related, every variety of treatment had been tried before the patients were admitted into the electrical room of the hospital. Dr. Bird adds :—

“ In every case admitted into the electrical room, I have confined the treatment to sparks taken in the course of the spinal column every alternate day, for about five minutes each time, or until the popular eruption makes its appearance. I have very frequently found the disease to be somewhat increased on the first employment of the electricity, from the alarm of the patient ; but this rapidly subsides ; and in general, merely with the occasional administration of a purgative, the cases have rapidly progressed towards cure.”

Dr. Bird relates nine cases, and appends to them the following conclusions :—

“ It may now be asked, in what light is electricity to be regarded, in the treatment of chorea, and certain involuntary motions of the voluntary muscles analogous to those occurring in this disease ? From the results of the cases treated at Guy's Hospital, no doubt can remain, on the mind of any one, that electricity really exerts a decided, not to say specific, influence on these affections ; and although, on its first application, all the symptoms often become increased, from, probably, the timidity of the patient, and the novel character of the remedy, yet, where it has been persevered in, in thirty-five of the thirty-six reported cases it has either completely cured, or greatly relieved the patient ; the cases in which it failed, the 29th in the table, could scarcely be regarded as a fair one, as there

was but little doubt that disease of the membranes of the spinal cord existed. As I feel extremely unwilling to recognise the existence of more specific agents than necessary, I would venture to suggest that electric sparks, when drawn from the spine, may act by the irritation they produce ; and this appears countenanced by the fact, that the rapidity with which the patient's symptoms are relieved is nearly in a ratio with the facility with which the peculiar papular eruption makes its appearance. If future experience should countenance this view, the remarkable influences exerted by electricity in the treatment of chorea may be referred to the principle of counter-irritation. It may next be inquired, whether, in the treatment of chorea, we ought to trust to electricity alone ? In answer to this, it may be stated, that I have repeatedly treated severe cases of this disease successfully with this agent, without the administration of any medicine at all ; and in the majority of the thirty-six cases in the table, no internal medicine, except an occasional purgative, was administered during the electrical treatment. Still, it is obvious that, in many cases, the disease is kept up and excited by the irritation produced by some deranged function ; and this of course it will become the duty of the physician to set right, before or during the application of the electricity. The case of Eliza Raven affords an interesting illustration of this ; here the chorea either depended, *ab initio*, upon the non-performance of the uterine functions, or was kept up by it ; and, accordingly, a few electric shocks through the pelvis, by restoring the deficient menstrual discharge, at once cured the patient."

PARALYSIS.

Paralytic affections constitute a prominent feature in the cases which have been referred to the electrical room of the hospital ; of these, forty-four cases have been fully reported by the clinical clerks, and may be found on record in the Hospital Books. Of these cases it may be generally remarked, that those in which the paralysis, whether of sensation or motion, or both, depended upon exposure to cold or rheumatism, upon some functional affection often of a local character, or upon the impression produced by effusion in some part of the cerebro-spinal centre, which had become absorbed under the influence of previous treatment the result of the application of electricity was most successful ; whilst in those cases in which the paralysis depended upon some persistent structural lesion, whether produced by accident or otherwise, Dr. Bird has never seen the slightest benefit result.

The reported cases of paralysis may be divided into those of dropped hands, those of a rheumatic character, those depending upon some lesions of the cerebro spinal centre, upon local injury applied to a limb, and upon hysteria. Of dropped hands there were eleven cases. Five were cured—three were relieved—one improved—and two experienced no relief.

In the treatment of these cases, electricity was generally employed in the form of sparks drawn from the upper part of the spine, so as to exert its influence over the origin of the spinal nerves forming the axillary plexus. In the majority of cases, medical treatment was also employed ; as, in general, the subjects of this particular disease are always deranged in health ; the functions of the digestive organs being imperfectly performed, especially as in most the patients had been previously the subjects of colica pictonum.

In cases where the general health was not much deranged, the use of electricity over the spine, and drawing a few sparks occasionally from the paralyzed extensor muscles of the wrist and hand, with the exhibition of an occasional laxative, was generally remarkably successful. But in those instances in which the patient was of cachetic habit, and the constitution deranged by previous or existing functional derangement of the digestive organs in particular, electricity was of no service, or, at most, of doubtful efficacy, until the deranged functions had been relieved by the remedial measures employed.

Dr. Bird relates four cases of paralysis of the extensors of the hand. An observation in connexion with such a case in a compositor deserves notice. The types are occasionally wetted, for the better distribution into their respective boxes. And if the damp types are imprudently exposed to the fire, for the purpose of drying, an empyreumatic acid matter appears on the surface of the types, and is probably absorbed by the compositor's fingers. If this very reprehensible and unnecessary drying is avoided, no injury arises from the use of types.

"In cases of the dropped hands of painters, the conditions before mentioned being borne in mind, the electric sparks drawn from the region of the cervical and dorsal vertebræ are generally efficacious in at least aiding, if not effecting, a recovery. I have generally, also, directed them to be drawn from the paralyzed parts; and, in recent cases, small shocks, transmitted along the course of the affected nerves, have considerably accelerated convalescence: but in chronic cases I have repeatedly seen a cure effected by drawing sparks from the spine, on alternate days, for weeks, after shocks had been passed along the paralyzed parts in vain."

Rheumatic Paralysis.—Cases of this affection, says Dr. Bird, are by no means unfrequent in practice, and are readily distinguished, on careful investigation, from those which depend upon cerebro-spinal lesion. The cases most readily confounded with them are those in which the legs or arms appear paralyzed, but in which the inability to move the limbs depends rather upon the pain produced by motion than upon any real want of power. The common history of these cases is, that a person after exposure to damp and cold, and sudden alterations of temperature, suffers from a slight febrile attack, followed by inability to move one or other of the limbs, and often a single leg or arm, if either of these have been exposed to the influence of a draught or current of air. In general, sensation remains either slightly or not at all impaired, but the paralysis of motion is generally tolerably perfect. This state may continue for an almost indefinite period; and at length, from want of exercise, the muscles of the affected limb become atrophied, and the chance of relief from treatment of any kind becomes proportionably diminished. In cases of this kind, before this wasting has occurred, the influence of electricity is very remarkable, frequently restoring power to the paralyzed muscles in a very short time.

We have a table of ten cases, and memoranda of four.

Paralysis from Affection of the Nervous Centres.—A considerable number of patients, labouring under various forms of paralysis, depending upon some functional or structural lesion of the great nervous centres, have been admitted under treatment at the electrical room. Of these, many were of that character in which no rational hope of relief could for a moment be entertained: of this class were those in which the paralysis depended upon some persistent lesion, as the pressure of an effused clot, of a tumor, or of bone on the surface of the brain or spinal marrow. And many of these cases, in which electricity afforded no relief, were subsequently submitted to post-mortem examination; and in all, the existence of some persistent cause of paralysis was distinctly made out. Dr. Bird has made out a table of 13 cases in which relief might fairly be expected. Of these, six were cured, two relieved, and five were not relieved. Seven of the cases are detailed. We quote one case—a striking one.

Case.—Stephen Burn, aged 11, admitted Jan. 15, 1840, into the hospital, under Dr. Addison, labouring under total loss of motion of the right leg and side, which appeared seven weeks previously, without any very apparent cause, whilst in bed. He has been gradually getting worse; and has been cupped, taken mercury, his head shaved, &c., without any marked benefit. He was carried from the ward into the electrical room, being quite unable to walk.

Sparks were freely drawn from the spine and affected limbs. The effect was remarkable; for the boy almost immediately recovered power over the previously paralyzed side, and he walked back into the ward with only the aid of a stick. After attending a few days longer, he was presented completely well.

Paralysis from Local Injury—Several cases of paralysis of a single limb, or part of one, from local injury, have been submitted to the action of electricity. Four cases are alluded to—one, paralysis of the left arm from falling on it—the second, paralysis of the right arm from injury to the shoulder—the third, paralysis of the ankle joint from falling with the foot bent—the fourth, paralysis of the left arm from dislocated humerus. Of these cases, says Dr. Bird, it may be briefly observed, that in those in which there was evidence of positive structural lesion of one or other of the nervous trunks supplying the affected limb, no benefit resulted from the application of electricity; whilst, on the other hand, where the nerve had been left only functionally paralyzed, and its structure unaffected, an electric current produced rapid, and in some instances immediate, relief. Of the four cases inserted in the above Table, the third and fourth were instances in which there could be but little doubt that the nervous trunks were themselves mechanically injured: in the fourth case in particular, in which a man dislocated his humerus into the axilla from a fall, and it remained unreduced for seven weeks. On his admission into the hospital, under the care of Dr. Cock, the dislocation was reduced, but the arm was left in a partially-paralyzed state; the parts supplied by the internal cutaneous and median nerves being especially affected. In this case, as might be expected, electricity was found altogether useless, as there was reason to believe that some branches of the axillary plexus had become structurally injured by the pressure to which they had been subjected.

Two cases are related more in detail, but we need not introduce them. Dr. Bird goes on to remark—"In these curious cases of partial paralysis, in which we find the affection limited to a very small portion of a limb, often to a single muscle, I have found the application of electricity of considerable service; although, from the rarity of these cases, I have not had sufficient experience to allow me to offer any thing more than a very general opinion. In the few instances of this local paralysis that have fallen under my notice, the power of motion has been alone lost, sensation having continued tolerably perfect; and the local application of the current from the electro-magnetic machine has been generally successful: in addition to this local treatment, the general health of the patient has been attended to, by the administration of appropriate medicines, and a vigilant attention to diet."

The following case is not uninteresting:—

CASE.—Paralysis of Motion, limited to the Biceps Flexor Cubiti.—Dr. Bird was consulted in March, 1839, by a gentleman of about 40 years of age, of sedentary habits, for a loss of power in the left arm: he had considerable difficulty in flexing the limb, and was quite unable to raise the fore-arm to any considerable extent. On examining the limb, the belly of the biceps was found remarkably atrophied, being scarcely one third as much developed as in the corresponding muscle of the right arm; the brachialis anticus appeared not to participate in this change, at least to any considerable extent. Sensation appeared to be tolerably perfect in the affected muscle. The patient stated, that this loss of power had been insidiously coming on during some months, and could offer no probable explanation of its origin. Dr. B. fancied it might be attributable to exposure of the arm to a draught of air. The general health seemed good. Blistering over the biceps and strychnia were of no service, and electricity was resorted to. The patient provided himself with the electro-magnetic apparatus, and passed a current from the region of the cervical vertebræ to the belly of the muscle, daily:

this always produced violent contractions and spasmodic movements of the arm. By continuing this treatment during several weeks, power gradually returned to the muscle, and in the course of some months, he had as much power over the flexors of the fore-arm.

"The cases here recorded are, I think, sufficient to justify the conclusions I have drawn of the value of electricity as a remedial agent in paralysis; and I have no hesitation in stating my conviction, that, in the majority of cases, a careful investigation into the history of the ailment will enable the practitioner to determine whether electricity will be of service in any particular case. Every one must be aware of the occurrence of cases in which paralysis generally affecting one side of the body, comes on as a mere effect of congestion or of effusion, which under the action of depletion and mercury, can be completely removed; and yet the effect of such morbid action, the paralysis itself, remains. Cases of this kind will generally do well by time, aided by the application of friction, baths, exercise, &c.; yet convalescence will be extremely protracted. Here the passage of a few electric shocks through the limbs, so as to arouse, as it were, the dormant functions of the nerves, will at once frequently restore as complete power over the affected limb as the state of the muscles, weakened by previous disease, will admit of. Of this we have a remarkable instance in Case 22. When the paralysis has been of longer date, or the cause producing it of a more persistent character, it will be found necessary to continue the application of the electric shocks for a longer period of time. In these cases, it will generally be found more convenient to allow a rapid succession of shocks to pass through the paralyzed limbs, by means of the interrupted current from the electro-magnetic machine. Indeed, so far as my experience has extended, I am far more inclined to place reliance on the current of electricity yielded by this machine, than by that obtained by means of friction; as we have at our command an enormous quantity of electricity, of high tension: added to which, its application is much more convenient, and requires less tact than when the common electric machine is employed. The truth of the statement here made, of the class of cases of paralysis in which electricity may be employed with every probability of success, is supported by what we see in its employment in the local paralysis following the application of mechanical injury to a limb; for wherever the nervous trunks supplying a limb are lacerated, or otherwise mechanically injured, we can hold out no hope of relief from the application of electricity, or any other remedy; whilst in those (as Cases 25 and 26) in which, from the shock of the blow applied to the limb, the nervous trunks had been only functionally paralyzed, their structure remaining unaffected, the passage of the electric current affected a complete restoration of the previously deficient nervous power of the limb.

In accordance with the reasoning, we find those anomalous forms of paralysis connected with Hysteria generally yield to the application of a few electric shocks. I have, indeed, repeatedly seen hysteric paraplegia yield so rapidly to the effect of an electric shock, as strongly to impress those who were watching the case with a conviction that the whole disease was simulated."

And we have no doubt that simulation, or something not a hundred miles removed from it, has a great deal to do with many of these cases.

AMENORRHOEA.

"Scarcely any cases have been submitted to electrical treatment in which its sanatory influence has been so strongly marked as in those in which the menstrual function was deficient. The remarks previously made regarding the electrical treatment of chorea and paralysis alike apply to amenorrhœa: so long as the patient is seriously out of health, as when marked symptoms of chlorosis are present, scarcely the slightest benefit has ever resulted from the employment of

electricity : in fact, as this agent can in these cases be regarded but as a local stimulant applied to an organ whose function is deficient, we could hardly expect the menstrual discharge to appear, when, from the deranged state of the general health, the womb is not in a state to supply the deficient secretion. The rule for insuring success in the great mass of cases of amenorrhœa is sufficiently simple :—improve the general health by exercise and tonics ; remove the accumulations often present in the bowels by appropriate purgatives ; and then a few electric shocks, often a single one, will be sufficient to produce menstruation, and at once to restore the previously deficient function. It is for want of attending to this rule that so many cases have been said to have been unsuccessfully treated by electricity ; and to this statement I must oppose all the experience acquired from the cases treated in the electrical-room of Guy's Hospital ; for, with but one or two exceptions, every case in which the general health was not too severely deranged, as by chlorosis, has been successful ; of course, not including those who, from timidity or other causes, never appeared but once or twice at the hospital."

Dr. Bird recommends the following method of applying the electric shocks.

Let the patient be placed on a chair or stool ; press the brass knob of a director against the sacrum ; and if the stays be loosened, to that only the linen intervenes between the latter and the knob, no further exposure is necessary. A second director, furnished with a chain connected with the outside of an electric jar, is passed by the female attendant under the patient's dress, and the knob pressed against the pubes. The jar is then charged and its ball touched by a chain. The shock thus passes through the patient's pelvis ; and should be repeated ten or a dozen times. The jar employed should hold about a quart, and be about half charged.

A Table is given of 24 cases of amenorrhœa. Twenty were cured—four were not relieved. The latter patients were the subjects of well marked chlorosis, and of an irritable condition of the uterus. "In general," says Dr. B. "whenever the menstrual discharge has appeared under influence of the electric treatment, I have directed the remedy to be intermitted as soon as the flow has been fairly established, and its use to be recommended about a week before its expected return, as in Cases 33, 34. Whenever, as has occasionally occurred, the use of electricity has been persisted in during four or five weeks without benefit, I generally advise discontinuing it altogether ; and by a careful investigation of the case, to ascertain, as far as is possible, the cause of the deranged general health which always, so far as I have seen, exists in these unsuccessful cases : and after removing this by remedies directed to the particular functions involved, the use of electricity will then seldom fail to restore the catamenia, and thus effect the cure of the patient."

OTHER DISEASES.

The results, in these, have not been sufficiently uniform to warrant any trustworthy induction to be drawn. In amaurosis, especially, the results of the trials were too conflicting to afford any satisfactory conclusions : in the majority of instances, it certainly did no good : in a very few, it appeared to afford some relief ; but in none did it affect any thing like a cure. In various cases of deafness the results of the application of electricity were similar. It is of course more than probable, that as amaurosis and deafness are in themselves but symptoms, various totally distinct affections of the eye and ear were submitted to treatment, and hence could afford no satisfactory conclusion.

In chronic rheumatism, especially in sciatica and lumbago, a considerable alleviation of suffering was frequently effected by drawing sparks from the seat of

pain ; but the cases submitted to treatment have not been as yet sufficiently numerous to warrant any general conclusions. Dr. Bird has never seen it of the slightest benefit in ovarian dropsy.

Nor has he observed it to be serviceable in epilepsy—nor, indeed, in the treatment of convulsive affections in which the brain was involved, as in epilepsy ; whilst, as already stated, in chorea, in which the brain is generally unaffected, the result of the application of electricity was most gratifying.

In hysteric epilepsy occurring in women in whom the uterine functions were suspended, electricity, by restoring the catamenia, was of material service ; these can, however, be scarcely regarded as cases of genuine epilepsy, but rather of an hysteric convulsion, depending upon the non performance of the uterine functions. Several cases of this description have occurred at the hospital. The following is an instance.

CASE:—Sarah Watson, aged 15, a stout girl, of remarkably dull appearance, states, that six months before admission into the hospital she was in possession of tolerably good health. At that time, however, she became the subject of fits of an epileptic character ; these occurred at irregular intervals, and lasted each time about fifteen or twenty minutes. This girl has never menstruated ; and she labours under the nervous feelings and headache, so frequent in amenorrhœa.

Oct. 10, 1839. Shocks through the pelvis thrice a-week.

13. The shocks were passed this day for the second time, and in a short time were followed by pains referred to the back and loins ; soon afterwards, the menstrual discharge appeared.

14. Catamenia continue flowing.

From this time she remained free from fits.

A very useful paper.

V. OBSERVATIONS ON REAL AND SUPPOSED PATHOLOGICAL CONDITIONS OF THE URINE. By G. O. REES, M.D.

In the Medical Gazette, Dr. Rees recently noticed a peculiarity in the urine passed by patients taking copaiba ; such urine becoming coagulated on the addition of nitric acid, notwithstanding that no albumen was present. He has since found a very similar condition in the urine of persons taking cubebs.

The urine impregnated with copaiba always yielded a precipitate, on the addition of nitric acid ; in some cases, this was very slight ; but in the majority, very dense and white, and greatly resembling albumen. The action of the acid on urine impregnated with cubebs is precisely similar in character, excepting that the colour of the precipitate occasionally verges on a pale pink. Previous to his publishing the re-actions of copaiba, there was but one substance (albumen excepted) supposed to be precipitable from the urine by nitric acid ; this was lithic acid, which, however, could not be regarded as a source of fallacy ; as, when thus precipitated, it comes down only after the tested liquid has been allowed to stand some time, and then appears in a semi-crystalline form, and of a brownish-red colour. The precipitate afforded by cubebs and copaiba is, however, of that cloudy opaque character which simulates albumen, and moreover occurs immediately on adding the test.

It became an object now, to discover some simple method of discriminating between this precipitate and that obtained by nitric acid from albuminous urine. Fortunately, a very easy means of doing so is afforded us, by allowing the urine to which the acid has been added to remain at rest for an hour or two ; when, should the precipitate consist of albumen, it will be found to have collected at the bottom of the tube, or to be arranged in flocculi through the liquor, the

greater part of which will appear clear. If, however, the precipitate be caused by the presence of a vegetable matter derived from copaiba or cubebs, the precipitate does not subside for several days; not, indeed, till decomposition has occurred. Another and more speedy method of discriminating between these two impregnations and albumen is by the use of the ferro-cyanuret of potassium as a precipitant, the urine being previously acidulated by acetic acid. If albumen now be present, it is immediately thrown down; but in the other cases, even if the acetic acid cause a slight turbidity, it is not increased by the addition of the ferry-cyanuret. It is interesting to observe how supposed exceptions to the law declared by Dr. Bright become explained away by advances in the chemical pathology of the urine; copaiba, for instance, has been stated to cause albuminous urine; and probably cubebs may also have been looked upon as capable of affording the symptom which Dr. Bright has regarded as characteristic of a peculiar morbid tendency in the kidney.

Dr. Rees dwells on the necessity for using both nitric acid and heat as a test for albumen. Yet the former may thus throw down a precipitate from vegetable matters not albuminous, and the latter may throw down the phosphates.

"I must mention, that the conditions I have noticed are not always to be expected, either in the case of copaiba or cubebs; appearing most strongly when the urine smells powerfully of the drug, and being scarcely perceptible when the characteristic balsamic odour is wanting. I have reason to believe, that when either cubebs or copaiba are administered with an alkali, that the urine becomes more rapidly and completely impregnated; but it is difficult to conceive what cause can be in operation to produce an occasional difference in this respect, the urine suddenly becoming (even when large doses of the medicine are being exhibited) comparatively free from impregnation."

Dr. Rees goes on to remark:—

"The frequent occurrence of the earthy phosphatic precipitate afforded by the action of heat on urine, and, consequently, the fallacious nature of the test by heat, may be better appreciated, if I now lay before the reader a statement drawn up from some valuable Tables which were formed by Dr. Barlow and Mr. Tweedie, at the suggestion of Dr. Bright. I find, by examining these Tables—in forming which, the tests both of heat and nitric acid were used to ascertain the presence of albumen—that in 482 cases, taken promiscuously from the hospital wards, 31, or about 7 per cent, were found which coagulated or became opalescent by heat, while they are not affected by nitric acid; these, therefore, were cases in which the phosphates were precipitated; and had heat alone been used as a test for albumen, we now observe how many errors must have been committed, and how many cases might have been cited as exceptions to Dr. Bright's law. Though well aware of the frequent occurrence of this source of fallacy, still I must say, I was scarcely prepared to find it in so large a proportion of cases as 7 per cent. In Tables constructed by Dr. Barlow, in which he examined the urine of 300 individuals, we find that in 1 in 11 had albuminous urine: other tables make 1 in 6 as the proportion; the former being about 9, and the latter nearly 17 per cent. This shews how impossible it is to arrive at a satisfactory approximation to the truth by the use of the test by boiling alone; for among 100 persons, 16 might be declared to have albuminous urine; and of these, only 9 might present the degeneration of kidney on post-mortem examination, the 7 cases opposing the general truth which the observer was seeking to confirm."

Dr. Rees thinks it may be concluded that the phosphates are apt to be precipitated from urine, on the application of heat, in patients of a cachectic habit, and in those worn by disease and suffering. The specific gravity of such urine is often as low as 1010 and 1012: though this is not always the case, as we sometimes find it natural, viz. from 1017 to 1022.

Dr. Rees has also examined into the assertion that patients in a state of sali-

vation present albuminous urine. Mr. D. Francis has constructed a Table of 15 cases of salivation.

Dr. Rees adds:—

"From these observations we may safely conclude that mercury does not always produce albuminous urine; and though we cannot say, from these few instances, that it never is a cause of the existence of that principle in the excretion, yet these cases may serve to warn the reader from depending too much upon loose assertions. I have myself observed that urine containing albumen sometimes becomes freed from that substance by exhibiting mercury to the patient. Mr. Francis, during his late inquiries, met with such a case; and I quote the following from a note I received from him.

'The other case was one of albuminous urine. The patient was salivated; and whilst under the mercurial influence, the albumen entirely disappeared.'"

VI. SOME OBSERVATIONS ON STRICTURE OF THE URETHRA, CATHETERISM, AND FALSE PASSAGE; FOUNDED ON POST-MORTEM INSPECTIONS. By EDWARD COCK.

The object of Mr. Cock is to shew how much violence and how much injury is daily done to the urethra by the forcible introduction of instruments. Of this there cannot be a doubt. False passages are continually made—great irritation is set up in the whole line of the urinary canal—perinæal abscesses, or even serious extravasation of urine, are the consequences—and a life of suffering, or a premature death, are the effects of a want of knowledge, dexterity or patience in the surgeon.

Mr. Cock shews, by cases, that the canal is constantly damaged, even when the instrument is got into the bladder—how much more so when it is not. "The surgeon," he observes, "when applied to in a case of difficult micturition or complete retention, congratulates himself and his patient on having succeeded in passing a catheter through a canal which, perhaps for months previously, has only allowed the escape of a slender thread-like stream, or possibly a mere dribble; he is said to have expanded the stricture. Sometimes the introduction is accomplished at the expense of much bloodshed; he is then said to have broken down the stricture; by which, I suppose, is meant the tearing down one side of the wall forming the narrowed portion of the canal, and thus laying it open, as it were, into the track of the instrument. The main object, however, has been accomplished; the catheter has entered the bladder; and the satisfaction experienced by the patient and the operator may probably render the latter unwilling to investigate the exact manner in which his success has been brought about. Nevertheless, the moderate permanent good, and the frequent mischief, which result from the passage of instruments, even where we have succeeded in entering the bladder—the scalding pain and rigors which accompany and follow micturition—and the not unfrequent occurrence of perinæal abscess resulting from the passage of a catheter—must, upon reflection, lead us to the opinion that the instrument has overcome the difficulty in a manner different from that which we had contemplated."

Mr. Cock lays before us some cases which have occurred only during the last twelve months. They are not picked cases of false passage, but comprise all the instances in which death occurred, from different causes, shortly after the introduction of a catheter *into the bladder*, where he could make a post-mortem examination. These cases we shall abbreviate.

Case 1.—A. D. aged 60, died of suppuration round the hip-joint. About a fortnight before his death, an abscess formed in the perinæum, which was opened, and discharged a quantity of fetid pus mixed with urine. It was then

ascertained that he had laboured under stricture for many years, voiding his water by dribbles. He now passed his urine freely through the wound in the perinæum; but in a few days time, as he appeared to be again suffering from retention, a small catheter was introduced into the urethra, and passed without much apparent difficulty into the bladder, when a considerable quantity of water was drawn off. The silver catheter was replaced by an elastic one, which he wore until his death. On laying open the urethra, it was found contracted opposite the bulb, to the extent of about two lines. A small probe could not be passed through the stricture, even under the application of considerable pressure; but a punctum probe passed readily. Immediately behind the stricture was an ulcerated opening, communicating with the perinæal abscess. The catheter had penetrated the walls of the urethra just anterior to the stricture, and formed a false passage along the upper part of the canal, merely separated from it by the lining membrane, until it entered the bladder above the prostate.

Case 2.—W. B. died from the effects of retention, followed by extensive extravasation and sloughing, extending through the perinæum and scrotum, and over the abdomen. Some days before his death, a sound was passed into his bladder. A firm cartilaginous stricture, which would just allow the passage of a probe, existed in the membranous portion of the urethra, behind which the canal was dilated into a pouch. The sound had evidently passed through the walls of the urethra anteriorly to the obstruction; but in what manner it had entered the bladder could not be ascertained, in consequence of the diseased condition of the parts.

Case 3.—W. C., aged 53. The urethra opposite the bulb was found nearly obliterated by a stricture, surrounded by extensive induration; behind it the canal was perforated by an ulcerated opening, through which the urine had escaped, and produced the extravasation. The instruments which had been introduced had left the urethra anterior to the stricture, had apparently passed through the softened and broken-down structures, and had re-entered the canal close to the prostate.

Case 4.—G. L., aged 71. A moderate-sized catheter was passed, his urine was drawn off, and the instrument was allowed to remain in the bladder for three days, when it was withdrawn; and he subsequently got rid of his water in a small stream by natural efforts. At the post-mortem inspection, the urethra was found relaxed and flabby, but capacious as far as the membranous portion, where it suddenly became contracted for a couple of lines, so as just to admit the passage of a sound, No. 3. The catheter which had been introduced had not penetrated the stricture, but had passed by the side of it, and been carried between the canal and the pubes until it penetrated the upper part of the prostate, and entered the bladder just above the natural entrance to the urethra. The track of the instrument presented an ulcerating and sloughy surface, but no extravasation had taken place; and as, after the withdrawal of the catheter, he experienced no pain during micturition, it is probable that he continued to pass his water through the natural canal, and not through the false passage.

Case 5.—T. C., aged 67. The urethra was very capacious, except just beyond the commencement of the membranous portion, where a stricture existed, probably of long standing. The contraction was about two lines in extent, and just large enough to admit the smallest-sized catheter. There were two false passages, evidently of recent formation, through which his water had been drawn off since the first introduction of the catheter; for it was manifest that the strictured portion of the canal, which was surrounded by a slight induration, had never been entered, being far too small to allow the passage of the instru-

ments which were used, and bearing no marks of having been dilated or passed through. The one false passage left the urethra about one inch and a half anterior to the stricture, to the left and upper part of the canal; passed just above the urethra for about three inches; and entered the upper wall of its prostatic portion. The other false passage left the urethra immediately anterior to the stricture, through a lacerated opening at the right and lower side of the canal; and re-entered the urethra close to the bladder, by piercing the prostate on the right side of the *veru-montanum*. A communication existed between these two false passages about the middle of their course, as if the catheter had been occasionally passed from one into the other. Thus there were four ways of entering the bladder, besides the right one.

Case 6.—"J. H., aged 60, died of ascites, for which he had several times been tapped. On the last occasion, previous to introducing the trochar, I attempted to pass a catheter; as he informed me he had long laboured under difficulty in voiding his urine. I found a stricture which I was unable to penetrate, and desisted from the attempt. On examination after death, I exposed a contraction of the urethra just opposite the bulb; and endeavoured to dilate it, first with a moderate-sized catheter, and afterwards successively with smaller ones, but found that the application of considerable force was insufficient to expand and penetrate the stricture. It allowed the passage of a large probe."

Mr. Cock remarks that this last case illustrates the physical difficulty, in many instances the impossibility, of overcoming an organic contraction of the canal by the mere application of temporary pressure. An old stricture cannot be taken by storm, and will not allow the passage of an instrument larger than the opening itself.

Mr. Cock offers a few suggestions.

1. The habitual size of the stream by which the patient voids his urine, and the effort and straining he is obliged to employ to get rid of it, are the best, and, in fact, the only means we possess, for arriving at an estimate of the dimensions of the strictured portion of the canal. In most instances, the longer the stricture has existed without proper remedial treatment, the firmer and more unyielding it will be found. This is the common sense view which we always act on, and which we believe to be the safest we can take.

Mr. Cock remarks that, in the ordinary directions for the introduction of a catheter, considerable distress is deservedly laid on the necessity for keeping the point of the instrument in the direct line of the canal: but we must not be too confident, that a strict observance of this rule will prevent us from occasionally eluding the stricture, and making a false passage into the bladder; as probably no appreciable difference will be recognised in the position of the instrument, whether it remains in the urethra, or is carried on just outside the membrane lining the canal. This we conceive is borne out by every practical surgeon's experience. However correct the position and destination of the instrument may seem, it may perforate the walls of the urethra notwithstanding.

After a catheter, continues Mr. C., has been successfully introduced into the bladder, it may often be a matter of some difficulty to determine, whether the object has been effected by carrying the instrument through the stricture, or opening a passage by the side of it. The condition of the patient subsequent to the introduction may assist us in arriving at an opinion. When, owing to the situation of the obstruction, a fortunate manipulation, or any other favourable circumstances, we have been enabled to introduce, without violence, without pain or loss of blood, a small catheter, which is suffered to remain for a longer or shorter period of time, we shall almost invariably find that the symptoms have undergone a material alleviation; that he passes his water in a larger stream with less difficulty and straining, and that the canal is in a condition to allow of a still further dila-

tation; in fact, that we have accomplished the first important step towards a progressively successful cure. On the other hand, our anticipations of a favourable change will generally be disappointed when the instrument has eluded the stricture instead of penetrating it. The introduction itself has probably been effected with some degree of violence, and is attended with pain and loss of blood. After the withdrawal of the instrument, the false passage may immediately close up, and the patient then remains in his previous condition; or the water may find its way in a reluctant stream through the new canal, accompanied by much smarting and irritation, and followed by rigors and constitutional disturbance; or a partial infiltration may, perhaps, take place, ending in the formation of a perineal abscess. The catheter is introduced again and again, with similar results; until it is found advisable to suspend the mode of treatment, or, under more favourable circumstances, until the new line of road becomes sufficiently worn and polished by the instrument to take upon itself the functions of a urinary canal. We have no doubt that the rigors, &c. which have been regarded as almost natural consequences of the introduction of instruments, are, in many instances, at all events, the result of their too forcible employment.

"The opinion has been advanced and maintained, that a new canal may be established with impunity; that it becomes lined by mucous membrane, and for the future answers the purpose of a water-course to the individual, while the old channel becomes abandoned and filled up. I do not intend to deny that such a desirable consummation may occasionally take place; but the observations I have been enabled to make on the subject incline me to believe that the result of an 'error loci,' on the part of the surgeon, is more frequently disastrous than favourable to his patient.

The mischievous consequences which are likely to ensue after a false passage has been made into the bladder may depend on its situation, its extent, or the degree of injury which has been inflicted on the surrounding textures, and on the constitutional irritability of the patient. In some cases, as I have already stated, a short artificial canal may be effectually established by the side of the stricture, and the condition of the patient permanently benefited by this diversion of the natural course of the urethra. In other instances, the new passage remains open only so long as an instrument is retained in it; or it may continue pervious for a certain time, and allow the urine to flow through it until the *vis medicatrix naturæ* has gradually healed the wound inflicted by the surgeon; and then the old canal, including the stricture, is again brought into use;—the patient, of course, relapsing into his original condition, the difficulties of which induced him to seek advice and assistance. I believe that the train of events which I have just described not unfrequently occurs; and the unsatisfactory result is generally attributed to a tendency in the urethra to *resume* its originally contracted state; whereas, in all probability, the stricture, which is thus said to have become re-established, had never been at any time removed or dilated by the introduction of an instrument.

Some instances have come under my observation, of persons who had undergone a previous course of catheterism for the relief of retention and the cure of obstinate stricture; and who, as far as could be ascertained from the account which they gave, from a careful examination, and from the symptoms manifested, had apparently lost, by obliteration, a considerable portion of the urethra including the stricture; and acquired a new passage, in no way better adapted for the purposes of micturition. The walls of the canal were irregular and granular, furnishing a copious purulent secretion, and exquisitely tender and irritable. The urine was voided with difficulty and pain; violent spasms frequently induced; and the life of the individual rendered one of misery and apprehension, by repeated attacks of retention of longer or shorter duration. The disposition of the canal to close rendered the use of the catheter frequently necessary; and

the introduction of the instrument, which could only be effected at the expense of great suffering, afforded but a temporary relief. Such a condition of parts hardly admits of any permanent alleviation, and gradually undermines the health of the patient; inducing disease of the bladder and kidneys, by which he is finally destroyed."

Mr. Cock concludes with two cases in point.

VII. CURSORY OBSERVATIONS ON SOME CEREBRAL AFFECTIONS OF CHILDREN. Read before the Physical Society of Guy's Hospital. By H. MARSHALL HUGHES, M.D.

Dr. Hughes first adverts to "Infantile Remittent Fever," which, he thinks, might be more correctly designated—"irritative fever of children." After a slight sketch of the symptoms and some judicious observations on the treatment Dr. Hughes goes on to say,—but in the course of this affection—which, by a high authority, has been mentioned as "remarkable for being always devoid of danger," and under circumstances undistinguishable from those accompanying the ordinary form of the complaint—the physician is not very unfrequently informed that his patient has been suddenly seized during the night with violent pain of the head, screaming, and convulsions; and, in the morning, finds it labouring under sufficiently-marked symptoms of arachnitis; as severe pain of the forehead, heat of the scalp, intolerance of light, contracted pupils, vomiting, a bounding but perhaps not very frequent pulse, and other indications of cerebral excitement, which need not be enumerated. He is then led to doubt if he may not previously have mistaken the nature of the case; and whether, from its commencement, it may not have been one of slowly progressive meningitis or hydrocephalus. He thenceforth directs his principal attention to the brain; bleeds, leeches, and purges; applies blisters, and administers calomel assiduously; but too often without any permanent benefit. The disease, after many fallacious appearances of amendment, passes on to effusion into the ventricles, from which the patient dies; and, on examination after death, are discovered the ordinary consequences of inflammation of the brain or its membranes.

Dr. Hughes relates three cases which it is unnecessary to insert, and contrasts them with two other cases of pure inflammatory affection of the brain and its membranes. Dr. Hughes contrasts two descriptions by two authors—one of acute hydrocephalus—the other of infantile remittent fever; and although the liability of the diseases being confounded is not dwelt on by those authors, the descriptions of the two disorders are wonderfully alike. Dr. Hughes then observes—

"Certain questions then arise, to which I am anxious of directing the especial attention of the Society; and the correct decision of which is most important. Are the two or three cases which I first mentioned, and all cases of a similar character, examples of simple remittent fever, in the course of which arise symptoms of arachnitis; or are they, *ab initio*, cases of slowly progressive inflammation of the membranes or substance of the brain? If the latter is the correct view of their pathology, it may be asked, How are they to be distinguished from ordinary cases of remittent fever? Or if the former is regarded as the more probable opinion, it may be again inquired, At what point does the fearful complication commence? or what are the first indications of incipient meningitis?"

What then, he adds, are the diagnostic marks of the two diseases, in their earlier stages? Upon the appearance of what symptoms are we justified in assuming the existence of, and adopting the active treatment necessary to subdue the inflammatory, during the course of the febrile complaint? He conceives

that the undoubted difficulty of the answer may be diminished by the following considerations.

In the first stage of acute hydrocephalus, there generally exist some intolerance of light and sound, contracted pupils, and wakefulness by night and by day; while in remittent fever, the patient, though restless at night, often sleeps soundly and comfortably during the day, the pupils are rather dilated, and light and sound are not complained of. The pain of the head in the latter affection is rather a general uneasiness, giving the child an expression of heaviness and languor, and, like the febrile symptoms themselves, is distinctly remittent; in the former, it is almost always referred to the forehead, and, though increased in severe paroxysms, is constant. The child suffering from acute hydrocephalus lays its head heavily on the pillow, with closed eyes, and appears unwilling to be moved, questioned, or noticed; unconsciously moves its hands up to or over its head; and often screams and starts, from severe accessions of pain; while its arms or legs are affected with slight spasmodic twitchings. That affected with the remittent fever, on the other hand, is usually easily and not unwillingly roused; and though fractious and petulant, has not violent fits of screaming; moves its head without inconvenience; and, while awake, is almost always occupied in picking its lips or nose. The bowels are sometimes constipated in both complaints; but they are more easily moved, and, when moved, are more easily kept in a relaxed condition; and the motions are more slimy, fetid, and dark-coloured, in the simply febrile than in the inflammatory complaint. The pulse also, which in the fever is almost always sharp and frequent, is, in the more grave affection, often sluggish, tardy, and irregular.

We fear these diagnostic signs must be taken with some degree of hesitation. But to proceed. Dr. Hughes passes to the complaint first described by Dr. Marshall Hall as a "hydropcephaloid affection of infants," and subsequently noticed by Dr. Abercrombie and by Dr. Gooch. We are tempted, for the matter is a most important one, to subjoin Dr. Hughes's description.

The child is weak, pale, and emaciated; and its flesh loose and flabby; its head is in reality, or from wasting of the face and neck is in appearance, large; it is laid listlessly on its mother's breast or lap, and is raised with difficulty and evident reluctance by the little patient, who is peevish and querulous when disturbed from its languid doze, and soon returns to the position from which it was moved; the features are contracted; the expression faint and distressed; the skin of the face pale, dingy, and wrinkled; it is reported to be constantly disposed to sleep; the pupils are dilated and sluggish; the fontanelles, perhaps, large for the age; the extremities, and general surface, cool; but the head not unfrequently rather hot, especially in occasional flushes; the bowels are relaxed; the evacuations green and slimy; and the stomach often so irritable, as to reject almost every thing introduced into it; the tongue is rather furred, but pale and moist; and the pulse very frequent, and very weak.

In these cases, it will usually be found, upon inquiry, that the child has been ill for some time—rarely for less than a week or ten days—and that it has previously suffered from symptoms of remittent fever; that it has been prescribed for, by a druggist, or by some medical gentleman who did not see it, and whose view of the nature of the case, and of the remedies necessary to be employed, has been derived from the statement of the mother or nurse; and that these remedies have consisted of leeches to the temples, and purgatives. The symptoms may have previously resembled those of remittent fever; they now are very similar to those of the advanced stages of hydrocephalus. From the previous progress of the disease not having been seen, as well as from the constantly reiterated statement of the mother, that the "complaint lies all in the head"—to which she perversely adheres, as if for the very purpose of deceiving—the diagnosis of the affection is often a matter of considerable difficulty.

Dr. Hughes adds, after again admitting the difficulty of accurate diagnosis—This “ must be principally derived from, and the treatment essentially founded upon, the history of the case, and the effects of remedies previously administered. For this purpose, the mother must be carefully interrogated, as to the first symptoms, and the progress of the complaint ;—whether it commenced with relaxation of the bowels, or indications of an inflamed brain ;—whether the effects of leeches and purgatives, most probably previously used with incautious freedom, have appeared to be beneficial or deleterious ;—and whether the bowels have, or have not, been relaxed, with or without medicine, during the entire course of the disorder. I dwell particularly upon this circumstance, because my own experience leads me entirely to concur in the opinion expressed by Dr. Marshall Hall, that the disease almost universally results from relaxation of the bowels ; and because the answers to these inquiries have often relieved my own hesitation, and have directed me to a safe and successful plan of treatment. If then, upon investigation, it be found that the complaint originated in disorder of the bowels—if purging has continued more or less throughout its whole progress, and the head has become only secondarily affected—if, after the application of leeches, the cerebral symptoms have increased rather than diminished, and purgative medicines have aggravated rather than mitigated the disease—I believe, as I have ever found, that stimulants and astringents, with good, wholesome, and nutritious diet, freely and frequently administered, will very speedily remove the worst features of the complaint ; and that leeches, purgatives, and mercury, must be immediately and entirely discarded.

It must however be recollected, that venous congestion and serous effusion, with their common indications—somnolence, coma, heavy and even stertorous breathing—may really appear in the last stages of this affection ; that they succeed, as the ordinary and perhaps inevitable consequences of extreme exhaustion ; and that, with the questionable addition of a blister to the nape of the neck, they can be advantageously and consistently met only by the speedy administration of such measures as are calculated to remove their cause.”

VIII. ON THE EXISTENCE OF ARSENIC AS A NATURAL CONSTITUENT OF HUMAN BONES. By G. O. REES, M.D.

It is well known that M. Orfila has announced the presence of arsenic in human bones and muscles. This is, of course, a most important fact, if it be a fact, and one which would be used with great effect in courts of justice. It is of the first consequence, then, to test its accuracy.

Dr. Rees has carefully repeated M. Orfila's experiments. and added others of his own. They have not corroborated M. Orfila's statements. On the contrary, Dr. Rees has been unable to obtain any arsenic at all. He sums up thus the conclusions which he draws from the experiments in question :—

It appears, that on a careful repetition of the experiments of M. Orfila, with larger quantities of bone-ash ; with sulphuric acid, of which the purity was previously ascertained—not by the analysis of a small quantity merely, but by the examination of the whole quantity subsequently employed in the experiment—moreover, by the application of both of the test upon which M. Orfila himself places implicit reliance, and of a test which has been shewn to be still more delicate in its indications—with all these precautions, and under circumstances the most favourable for the detection of arsenic had it really existed in bone-ash, a negative result has been obtained.

IX. OBSERVATIONS ON THE ABSORPTION OF METALS INTO THE BLOOD, IN CASES OF POISONING. Illustrated by an Account of a Case of Poisoning by Lead,

occurring in a Cow under the care of Mr. Cherry, Veterinary Surgeon to the Coldstream Guards. By Alfred S. Taylor.

M. Orfila has detected arsenic in the blood of persons poisoned by arsenious acid, both during life and after death—and in the urine and the viscera. Antimony he has detected in the urine and in the substance of the viscera, more particularly the non-secreting organs—and copper has been found in the viscera of animals only.

Lead.—Mr. Taylor is not aware of any instance of lead-poisoning in which the metal has been found in the blood. A singular case of accidental lead poisoning in an animal, gave Mr. Taylor an opportunity of examining one of the secretions.

Not long since, a cow, belonging to Mr. Harrison, the Treasurer of the Hospital, swallowed a quantity of carbonate of lead, which had been mixed for paint. It appears that some painters had carelessly left the pot containing the paint within the reach of the animal. The cow overturned the vessel, and lapped up the contents, amounting, it is supposed, to half-a-pound of dark-green paint. Some time afterwards, the cow was seen, apparently in a state of great suffering, resting, in a contracted posture, with its horns fixed against a wall. There was obstinate constipation ; and on the 8th day, general paralysis of the trunk and limbs, so that the animal could scarcely stand. Mr. Cherry exhibited large doses of sulphate of magnesia, and, occasionally, carbonate of ammonia and oil of turpentine : and at the end of a week, Mr. Harrison having applied to Mr. Taylor on the subject, he suggested that large doses of sulphate of soda should be administered, which was readily acquiesced in by Mr. Cherry. This was advised, not so much with the view of the salt acting as a chemical antidote (although commonly employed as such in lead-poisoning,) as with the idea of its expelling the poison from the bowels, by its well-known purgative properties. The sulphate of soda was accordingly given in large quantity, dissolved in water ; and apparently, with some good effect. The animal recovered slowly from the action of the poison, and was not perfectly well till the end of ten weeks.

It ought, perhaps, to be mentioned, that at the time of the accident, the cow was rather more than two months gone with calf ; and that after three weeks she slunk her calf, which shewed no signs of decomposition, and was of full size for a foetal calf of that age.

Soon after the animal had taken the poison, and while still labouring under its effects, a quart of milk, drawn from it, was sent to me for chemical examination. It possessed all the properties of rich milk, with an abundance of cream. About an ounce of the milk, deprived of cream, was treated with the hydrosulphuret of ammonia ; but this gave no satisfactory indication of lead. Sulphuretted hydrogen gas was then used in its pure state, but without any apparent effect. Judging from these results, that if lead were present in this secretion it could be only in a very minute proportion, Mr. Taylor passed the gas into about ten ounces of the milk ; when, after a short time, the whole liquid began to acquire a faint-brown colour. It was allowed to stand some hours ; when a black flaky precipitate collected at the bottom of the vessel ; but in so small a proportion, that it was impossible to verify its nature by resorting to any of the usual tests for sulphuret of lead. Mr. T. thought it right, however, to perform some comparative experiments on the milk of other cows ; and, accordingly, two different specimens were taken, in equal quantities, and treated in a similar way. Sulphuretted hydrogen had no effect whatever in these cases, although the gas was passed in for some hours. On adding a very small portion of a diluted solution of a salt of lead to another quantity of milk, the effect produced by the gas was precisely similar to that witnessed in the case under investigation.

Mr. Taylor adds :—

“ These results, affirmative and negative, left no doubt in my mind, that some traces of lead were present in the milk, but in what state it is impossible to say. Admitting its presence in this secretion, it follows, that it must have found its way into the blood by absorption. The quantity present must have been infinitesimally small, since the test was evidently near the limits of its action. The sulphureted hydrogen gas is said to have the property of indicating the presence of a salt of lead when the latter forms not more than the 300,000th part of a solution. Allowing this to be the case, and judging from a comparative experiment, it appears to me that it cannot be far from the truth to state, that the quantity of the salt of lead contained in the poisoned milk did not exceed the 200,000 part of the weight of the liquid.”

X. CASES OF INCISED WOUND OF THE KNEE-JOINT, OF FLUID IN THE THYROID BODY, AND OF ABNORMAL THYMUS GLAND.

1.—*A Case of Incised Wound of the Knee-Joint.* By Henry Elston, Esq.

William Wainwright, of Rainford, aged 45, of muscular make, was, about half-past twelve o'clock on the morning of the 7th of August 1839, proceeding home with a scythe on his shoulder, the blade downwards; and, by some accident, drew it across his knee, and cut deeply into the joint. The knee being flexed, he divided the ligamentum patellæ, and cut off portions of the patella, of the inner condyle of the femur, and of the corresponding condyle of the tibia. These pieces of bone were found on the ground, after he was taken up from the spot where the accident happened, and where he had lain upwards of two hours, on a most tempestuous night. There was very little hæmorrhage, although the wound extended from the inner to the outer condyle of the knee, so that he had nearly amputated the limb. Mr. Elston and Mr. Casey determined, in consultation, very judiciously, to try for union by the first intention. The lips of the wound were, therefore, brought in apposition by the usual sutures, and strips of adhesive plaster, as in the case of an amputated thigh; covering over this dressing with folded linen, wetted in the saturine lotion. The lotion was continued for a week, to prevent inflammation; suppuration came on about the third or fourth day, but not to any great extent. The limb was, of course, placed in a straight position, and kept so for at least three weeks. No untoward symptom presenting itself, and no treatment being required but the ordinary one in such cases, the patient perfectly recovered, completely regained all the motions of the joint, and was able to follow his usual employment as an active farmer.

This case is possessed of much practical interest. The danger of free wounds into joints has probably been overrated. It is when the matter is locked up that they are so very formidable.

2.—*Collection of Fluid in the Right Lobe of the Thyroid Body.* By J. Massey, Esq.

A man aged 30, had, for five years, an enlargement of the right lobe of the thyroid gland. He used iodine for three months. In October of last year the following was its and his state :—The tumor is situated over the right side of the thyroid cartilage, extending a little above, and for some inches below it, the longest diameter being obliquely from before backwards, passing under the sterno-mastoid muscle externally. There is no pain on pressure; nor does he complain, except from its inconvenience in size; the measure round the neck, over its most prominent part, is eighteen inches. There is evident fluctuation, which is most apparent at its anterior and inferior surface; here it is more prominent than elsewhere. There is also a pulsation communicated throughout its extent, from its contiguity to the carotid artery. Complexion sallow, and con-

junctivæ yellowish—bowels costive—urine high-coloured—wheezing respiration—little cough—vertigo—palpitations—tending to perspirations. Iodine treatment continued till November 27, 1840, when Mr. Massey introduced an exploration needle at the point where the fluctuation was most evident, and evacuated by it about five ounces of fluid, having the appearance of very thin bile, of an olive-brown colour, with an oily crystalline deposit on its surface ; this almost completely reduced it to its natural size.

The fluid re-accumulated, when Mr. M. made an opening into the sac, four or five inches in extent, by means of a sharp-pointed bistoury, and evacuated at least five ounces of the same kind of fluid as before : (this was the second fluid, *vide* Analysis ; in which was a quantity of blood, escaping from the incision made in the sac and the adjacent parts, which was not in the first quantity, taken Nov. 27). The finger, introduced into the sac, could be passed above the thyroid cartilage, and downwards very nearly to the sternum, and outwards under the sterno-mastoid muscle. The thyroid body was converted into a large cyst, containing the fluid : a pledget of lint was introduced into it, and secured by adhesive straps. A very small quantity of blood was afterwards taken from his arm, for analysis.

The discharge was free, for some time offensive, afterwards purulent. An injection of iodine of the following strength was employed.

Potassæ Hydridatis $\mathfrak{z}$ i. Iodinii gr. iii, Aquæ distillatæ $\mathfrak{z}$ xvi. m. fiat inject.

A temporary augmentation of the discharge occurred subsequently from cold, but it subsided, and on the 19th Jan. 1841, he is reported as very nearly cured.

The following are the analyses of the fluid as it was withdrawn on the two occasions :—

FIRST PORTION OF FLUID REMOVED NOV. 27.
Slightly Alkaline. Specific Gravity 1.0242.
COMPOSITION.

Water - - - - -	905.140
Mucus - - - - -	19.830
Albumen - - - - -	5.210
Gelatine - - - - -	11.100
Albumen combined with soda - - - - -	8.350
Cholesterine - - - - -	10.640
Oily matter - - - - -	5.200
Colouring matter soluble in water and alcohol - - - - -	8.250
Biliary matter - - - - -	9.730
Chlorides of sodium and potassium - - - - -	6.210
Carbonates of lime and soda - - - - -	4.380
Iron - - - - -	.250
Loss - - - - -	5.710
	1000.000

SECOND PORTION OF FLUID, REMOVED DEC. 4.
Alkaline, and containing Hydrosulphuret of Ammonia. Specific Gravity 1.0356.
COMPOSITION.

Water - - - - -	896.310
Mucus - - - - -	34.270
Albuminate of soda - - - - -	7.920
Fibrine - - - - -	1.840
Cholesterine - - - - -	9.560
Colouring matter soluble in water and alcohol - - - - -	16.340
Gelatine - - - - -	10.830

Resin, not affected by nitric or muriatic acids	5.820
Chlorides of sodium and potassium	 7.460
Phosphates of lime and soda	 3.210
Iron, a trace	.... ....
Loss	 6.440
	1000,000

It is probable, as Mr. Massey remarks, that the enlargement of this body primarily consisted in a derangement of its cellular structure, with an increased and vitiated exhalation into the cells, and their subsequent partial or general dilatation and thickening: the previous morbid exciting cause still continuing, an increased secretion into the cells, with their further dilatation and rupture, was the result; so that the lobular structure of this body, in consequence of the additional accumulation, ultimately became converted into a large sac, which contained the adventitious fluid.

XI. CASE OF BONE PASSED FROM THE URETHRA.

J. H. aged 45, a patient of Mr. Balderson, of Poland-street, of active habits and irritable temperament, had been subject to stricture in his urethra for a considerable length of time, which was always relieved by the introduction of an instrument. He was in the habit of having a bougie introduced about every three months: but even when performed with the greatest degree of gentleness, he complained of a tightness at the strictured part, and pain upon the instrument entering the bladder. At the beginning of the present year, he called on Mr. Balderson, to have the bougie introduced; and as the inconvenience he always suffered was foreseen, he was strongly recommended to place himself for a few hours, in a recumbent posture: but instead of doing so, he walked as quickly as possible from the neighborhood of Golden Square to Drury Lane; and having occasion to empty his bladder, he found that more than ordinary exertion was requisite to relieve himself, and a free discharge of venous blood followed. Of this he took no notice: but on the 9th of February, after having attended market, he found that he was compelled every ten minutes to evacuate his bladder; and each time the water was tinged with blood, and a few drops of pure arterial blood followed, producing excruciating pain. He remained in this state during the day; and in the evening sent for Mr. Balderson, who found him with a pallid countenance, a quick and irritable pulse, a coldness of extremities, and he had had shivering. Upon inquiry, it was ascertained that about three weeks previously having slipped off the curb-stone, he had two days afterwards passed blood by the rectum, which he attributed to hæmorrhoids, to which he was occasionally subject. He was sent to bed, and ordered calomel and opium, &c.

He passed a bad night, from frequent desire to make water, with pain in the region of the bladder, which seemed distended with blood. The symptoms increased, in spite of fomentations and opiates, and Mr. Bransby Cooper saw the case in consultation with Mr. Balderson. He prescribed leeches on the perineum and a bladder of ice between the thighs. The patient, however, remained much the same until the 19th, when he shewed Mr. Balderson a substance resembling a fish-bone which he had passed with excessive pain, during the night, through the urethra. The blood gradually ceased, and he was enabled to resume his occupation.

Whether the bone, which caused this patient's complaint, was swallowed with his food, and passed from the rectum to the urethra, or whether it reached that situation in some other way, remains uncertain: that the little substance is really

a bone, is evinced by its form, by its cancellated appearance under the microscope, and by its chemical analysis.

XII. DEFICIENCY OF THE PECTORAL MUSCLES.

A convict, aged 27, was dissected in the Session 1840—1 in Guy's Hospital. Setting aside some other appearances, it was observed that,—

On reflecting the integuments from the anterior parietes of the chest, the ribs, intercostal muscles, and the cavity of the axilla, were at once exposed. The whole of the sternal and costal portions of the pectoralis-major muscle were deficient: but its clavicular origin quite normal: this latter was thick and fleshy, and passed downwards and outwards, to be inserted, by a thin, broad tendon, into the outer edge of the bicipital groove, to the same extent as usual.

The pectoralis-minor muscle was wholly absent; not a vestige of it to be seen.

The serratus-magnus muscle was also, for the most part, deficient, its two superior digitations only being present; arising, as two short, thick, and fleshy heads, from the first and second ribs: these immediately united, and passed to be inserted fleshy into the superior angle of the scapula, in front of the levator scapulæ.

In the left hand, the middle phalanges were absent in all the fingers; except in the middle finger, where a ring of bone, a quarter of an inch in length, supplied its place. The web between the fingers extended to the first phalangean articulation; so that only one phalanx remained free on the distal extremity of each finger. The left thumb was quite normal.

XIII. ULCERATION OF THE STOMACH—FATAL HÆMORRHAGE.

Mary Waller, aged 49, admitted into Lambeth workhouse Sept. 1, 1836. She had been ill about two months with pain in the epigastrium. About a month previously, she had had an attack of vomiting. She had pain in the region of the heart, the action of which was increased. She was pale and had the aspect of organic disease.

On the 6th, she was suddenly attacked with vomiting of blood, bringing up several clots: this subsided for twenty-four hours, although her power appeared to be very much diminished. The pulse very quick and feeble. On the 7th, a recurrence of the vomiting took place in the evening; when she expired rather suddenly. On the succeeding morning the body was examined. The right auricle was found to be dilated; but otherwise the heart, and large vessels, presented nothing remarkable. The lungs were a good deal congested. The œsophagus was full of coagulated blood; and the stomach distended by two large clots, which were separated by a peculiar constriction of the centre part of the stomach. On opening the stomach, the posterior surface was found adherent to the pancreas: at which part there was a deep ulcer of a sloughy character, with much surrounding hardness. The coats of the stomach itself were destroyed; and the ulceration extended into the substance of the pancreas, penetrating a vessel of considerable size, the open mouth of which was readily discernible, and from which source the blood had evidently escaped.—The pancreas was found rather harder in its structure than usual.

XIV. CASE OF A REMARKABLE ENLARGEMENT OF THE FEMALE BREAST. By S. ASHWELL, M.D.

Eliz. R. aged 24, short and spare, admitted under the care of Dr. Ashwell,

October 15, 1840, on account of a large tumor of the breast. The following is Dr. Ashwell's note of it upon the 18th.

"The tumor, which is immensely large, measuring twenty-nine inches in circumference, and weighing nearly twenty pounds, is lobulated; the lobes being formed by several almost parallel divisions, running from above downwards. The surface is tolerably smooth, but of much darker colour than other parts of the skin; and branches of veins ramify superficially over it, giving it very much the appearance and tint of the round balls of mottled soap seen in the shops of the perfumers.

The enlargement is uniform, but, although connected with it, does not seem to involve the original structure of the mammary gland; for although what I suppose to be the lactiferous tubes can be distinctly traced from the inner side of the growth into the substance of the gland, still the extent of the healthy mamma can be easily defined. That the lactiferous tubes are enlarged, admits of no doubt; but the great volume of the growth seems to consist in the addition of cellular tissue, containing, I imagine, a large quantity of fat. The whole mass is elastic, and soft; and in no part of it, even on the most careful examination, can I find any trace of indurated or even of slightly-condensed hard structure."

She gave this history:—She began to menstruate soon after twelve years of age; and continued to do so, quite healthily, until her marriage, which occurred at nineteen. She soon became pregnant; and in ten months was delivered of a healthy living child;—the labour having been rather tedious, but in other respects perfectly natural. She suckled with both breasts for the first two months; but was then compelled, in consequence of a diseased state of the nipples, to wean the child. About a fortnight after the accouchement, an abscess formed in the right breast (the seat of the present disease); and in a month discharged itself by a number of small openings, rendering the under part of the gland quite cribriform; these, however, soon closed; and the matter, again collecting, was evacuated by the natural process, through a large opening at the upper part of the breast. The drain consequent on this abscess, and the irritation produced by an attack of erythema nodosum, rendered the weaning absolutely essential.

Within eight months of her first confinement (both breasts being at that time of their natural dimensions and appearance) she again became pregnant. About the twelfth week she perceived a hard swelling, of the size of a hen's egg, in the right axilla; this was neither painful nor tender; but as it increased in size, she applied, under medical advice, some leeches and evaporating washes;—it having been suggested that it was an enlargement of a gland, from irritation. Instead of diminishing under this treatment, the swelling increased; and there was also considerable irritation and pain. Iodine, from her own statement, was subsequently used; but as no better result ensued, it was determined to adopt no further treatment till after her confinement. From this time onwards, to her delivery, which was perfectly natural, the tumor grew; and it measured, on the third day after parturition, eighteen inches in circumference. On this day, the milk being nearly at its height, the tumor, having previously induced inconvenience solely by its size and weight, became exceedingly painful and tense; the uterus appearing to sympathize—as pressure on either could scarcely be borne. Mrs. K. suckled on the left side only; and although the milk still continued to rush into the tumor, it began from this period sensibly to diminish in size, till, at the eighth month, when she weaned on account of pregnancy having again occurred, the morbid growth was not larger than a small orange.

At the end of the third month, as in the second pregnancy, the tumor began again to enlarge, but more rapidly, though without pain. Soon afterwards she went into one of the hospitals; the tumor then measuring twenty-three inches in circumference. From the treatment pursued, Mrs. K. derived no benefit; and she consulted Mr. Callaway, by whom she was sent to Sir Astley Cooper.

After a careful examination, the tumor was punctured with a lancet; and two ounces of curded milk, streaked with blood, were discharged.

The opening soon healed; but shortly afterwards, a collection of fetid matter, intermediate between pus and milk, was evacuated. Within a month of this period, while making some undue exertion, there escaped from the same puncture a large quantity of blood, in a full stream. It stopped spontaneously; but a similar loss occurring shortly afterwards, induced premature labour, at the seventh month. The child was born alive, but survived only twenty hours. Both mammae were now painful, the right more than the left; and especially the tumor, which, as formerly, having been very tense and hard, began on the third day to diminish in size. The diminution, however, was very different to what had taken place at the expiration of her second pregnancy, when the growth did not exceed the size of a small orange;—as at the end of six months (May 1840) when she became pregnant for the fourth time, the tumor was still more than fourteen inches in circumference. Now, Oct. 15th, 1840, it measures twenty-nine inches, and weighs nearly twenty pounds.

We need not pursue the details of the treatment adopted in the hospital. It was of no service. She left the institution. She had a natural and easy confinement, and the report on March 17th, four weeks afterwards, is—the tumor has decreased five inches: its greatest circumference being twenty-five, instead of thirty inches and a half as after delivery. The mass is still soft and elastic. Its diminution in size is, however, very slow, compared with what occurred in previous confinements. There is still an opening low down on the external border, which discharges a few drops of cream-like fluid. She says that any undue exertion, such as cleaning her room, is followed by the increase of the growth to about an inch. She seems delicate and feeble; and greatly complains of the burthen of the enlarged breast. There is but little secretion from the right mamma, to which the child is never applied; but on squeezing, a little milk exudes from the nipple, between which and the milk from the sound mamma there is no perceptible difference.

Dr. Ashwell remarks:—

“I am not aware—although such have probably occurred—of any recorded cases exactly similar to the one now related. Examples of hypertrophy of the mamma, even of great magnitude, are rare; but several might be adduced, where enormous development has taken place in connexion with, or subsequent to, puberty; but so far as my inquiries have yet gone, I cannot find any instance where the hypertrophy has been so dependent for its increase and decline on pregnancy and lactation. The almost entire disappearance or removal of the growth after the second confinement and suckling, and its return and more permanent continuance after the subsequent deliveries, are points of great interest. Removing the malady, as they appear to do, from the class of malignant diseases, there is yet enough left, about such a case, of a decidedly morbid character, as must excite apprehension for the ultimate result. The diagnosis may not involve any great difficulty, but the probable course and termination of such a disease is far more serious. It is evident, however, much good may be done by light, nutritious, and unstimulating diet, pure country or sea air, cheerful society, and healthful exercise;—that the safety of the patient mainly depends on a quiet inactive condition of the reproductive organs. To what extent, if at all, sexual intercourse, without pregnancy and lactation, may induce the return and the continuance of the disease, it is at present impossible to say; but I believe that the suspension of such excitement would be most important; nor can there be any doubt, when the tumor is permanently developed, that any remedial measures will be useless, so long as pregnancy and suckling continue to recur. An attentive perusal of Mrs. K.’s history will confirm these views. At first, her health was tolerably good; and this unusual result of conception nearly disappeared, after the cessation of the functions which seem to have given it birth.

A repetition, however, of the same actions reproduces, and permanently establishes, the morbid growth ; and it is, I fear, but too evident, if this faculty continues in full activity, that fatal consequences must ensue. Her health is already much broken ; her nervous system is unduly excited ; and her emaciation is marked and progressive. It is not difficult to foresee the result ; phthisis, or dropsy of some of the great cavities, will probably occur, or perhaps, previously to the complete establishment of these diseases, the patient may be worn out by the mechanical and constitutional derangements attendant on the malady."

XV. OBSERVATIONS ON THE LAWS WHICH REGULATE THE DEPOSITION OF TUBERCLES ; WITH PRACTICAL INFERENCES APPLICABLE TO THE PROPHYLACTIC TREATMENT OF PHTHISIS. By GEORGE H. BARLOW, M.A. & L.M.

Dr. Barlow observes—" In our inquiries into the laws which regulate the establishment and progress of tuberculous disease, two questions of great interest meet us, as it were *in limine* ; namely, (1) What are the circumstances that induce that constitutional liability to this disease which has been termed the tuberculous diathesis, or tuberculous cachexia ? and (2) What are the topical conditions most favourable to the development of tubercles in any particular organ ? It is to the latter of these questions that I now offer a reply ; and it is this—*That any organ is most liable to become the seat of tuberculous deposit when its vascular and functional activity bears the greatest ratio to that of the other organs of the body.* This conclusion, I say, accords with my own observations ; and is confirmed by the facts recorded by many of our most distinguished pathologists, although their opinions have, in some instances, been opposed to it."

After some observations on tubercles in other organs, Dr. Barlow passes to the lungs. Proofs of the truth of the law he has laid down are to be found, he thinks—First, in the period when hereditary tuberculous disease generally first invades the lungs : 2dly, in the external circumstances which are known to be most favourable, or most opposed, to its progress ; 3dly, in the part of the lungs which it most affects ; and, lastly, in several pathological conditions which appear to influence the development of pulmonary phthisis.

1. Dr. Barlow argues that in childhood, when the respiratory functions begin to be active, tubercles begin to shew a tendency to development in the lungs. This is a time for caution, therefore, and for prophylactic treatment. He next speaks of the period of life when the body has attained its full proportions, or rather ought to have attained them. Then it is that the extremities, and those parts which return their blood directly into the right auricle, have acquired their greatest proportion to those which return it through the medium of the portal system ; then it is that the circulation is often accelerated by continued bodily exertion and mental emotion ; then too it is, that females most sedulously compress the lower lobes of the lungs, thereby calling into greater activity those portions which are most liable to tuberculous deposit ; and then it is that pulmonary phthisis, which perhaps has had its commencement in an earlier period, commits the greatest ravages.

2. *Climate.*—The gist of Dr. Barlow's reasoning on this head is this—that increase of temperature, especially if combined with humid atmosphere, must increase the action of the liver, and diminish that of the lungs ; but that, if the air be drier, the lungs are still relieved, but a greater amount of depurative action is performed conjointly by the liver and the skin ; and, conversely, that a depression of temperature must call the lungs into greater activity, by diminishing the functions of the former organs. It also follows, that, since in a warm

climate the development of the liver must have been favoured at the expense of that of the lungs, a change to a cold climate must call the latter into a state of over-activity : whilst the same effect must frequently occur amongst those who reside in climates subject to sudden variations of temperature.

And this is precisely what we observe in respect to phthisis : the inhabitants of cold climates are, *caleris paribus*, far more liable to pulmonary phthisis than those of warm climates ; whilst a climate subject to sudden changes of temperature seems still further to favour the production of this disease ; and a removal from a warm to a cold climate is frequently found to produce it, not only in men, but also in the lower animals : as is seen in those brought from southern latitudes to the menageries of this country.

It follows, then, that those climates, and those changes of climate, which excite the lungs to the greatest functional activity are precisely those in which phthisis is most readily and frequently produced.

3. *Employment.*—It is notorious, says Dr. Barlow, that those whose occupations expose their lungs to irritating causes are more liable than others to pulmonary consumption ; as is seen in those who work in an atmosphere loaded with dust, or charged with irritating gases : whilst a remarkable immunity from this disease appears to prevail amongst butchers, tanners, soap-boilers, and others exposed to exhalations from animal matter. Dr. Barlow accounts for the immunity of the latter class of persons, by the fact of the co-adjutive action of the great depurating organs of the body. We shall readily perceive that the azotized and hydrogenous exhalations to which they are exposed must, if absorbed into the system, be removed by those organs whose function it is to eliminate the excess of such substances, namely, the liver and the kidneys ; and, as whatever is prone to pass out of the system by any particular organ, acts as a stimulant to that organ ; the liver and kidneys will, in such cases, be excited, and consequently the functional activity of the lungs impaired.

"There is one class of workmen, whose diseases I have had great opportunities of witnessing, and amongst whom I have observed an extreme liability to phthisis ; namely, hatters. And here, again, we observe an illustration of the same law ; for these persons are employed, for the most part in rooms heated to a very high temperature, and filled with aqueous vapour ; under these circumstances, the liver must be highly stimulated ; which continued stimulus must give rise to a torpidity, under ordinary circumstances ; so that, when they leave their heated rooms, a suppression of the action of this organ, and a corresponding increase of action of the lungs, must ensue. These persons are, in fact, placed in the same circumstances as those liable to sudden atmospheric changes, but in a greater degree."

4. *Part of the Lung most affected.*—The upper part of the lung is, for several reasons, most worked, and is most liable to tubercles.

5. *Pathological Considerations.*—Pregnancy, which draws the blood to the uterus, suspends phthisis.

"Again, a still more unexceptionable proof is afforded in the well-known fact of the arrest of tuberculous disease in the lungs, and consequent prolongation of life, in those cases where pneumo-thorax has occurred from perforation. In these cases, the compressed portion of lung has sometimes been found to have been the only part which is exempt from tubercles. Thus, in a case recorded by myself in the Fourth Volume of this work, perforation of the superior lobe of the left lung occurred ; the consequence of which was, that the inferior lobe of the same lung collapsed ; and when death ensued, at the end of three years, the portion of lung was found firmly bound down to the bodies of the vertebæ by adventitious membrane, and was entirely free from tubercles ;

although the remainder of the lungs were so extensively affected by them, that the proper pulmonary tissue was almost entirely obliterated throughout; and the patient died from want of respirable lung, which is rarely the case in phthisis."

Dr. B. draws an additional argument, from the fact, that pulmonary phthisis frequently follows closely upon the suppression of suppurative discharges, as after the removal of a strumous limb; whilst a fresh action in a remote part of the system, whether excited by disease, by accident, or by design, appears to check its progress. Thus, in examining the bodies of those who have died of suppurative affections of remote parts, we often find traces of antecedent or inactive tuberculous disease in the lungs.

6. *Practical Deductions.*—Dr. Barlow concludes:—"The great principle which, in a therapeutical point of view, it seems to establish, is the importance, in the prophylactic treatment of phthisis, of keeping all the excreting organs in a state of moderate activity, and preventing an excessive performance of function by any. When, however, there appears reason to apprehend that undue excitement of the lungs exists, we must endeavour to relieve the functional excitement through the medium of the other excreting organs, and the hyperæmia, by moderate local depletion, and the use of remedies likely to control the action of the heart. The means of fulfilling these indications will readily suggest themselves to the experienced and reflecting practitioner: but as my great object in the present essay has been to establish a pathological principle, though one immediately applicable to therapeutics, I shall not now enter further into details, than to state, that in cases where I have observed a diminished resonance on percussion under the clavicle, with preternatural resonance of the voice in the same situation, occurring in connection with constitutional symptoms calculated to excite the apprehension of phthisis, especially when they presented themselves in a member of a strumous family, I have generally been in the habit of applying leeches or cupping-glasses, and afterwards occasional counter-irritants, and of exhibiting internally sulphate of quinine in combination with digitalis, and some narcotic, which seems most applicable to the particular instance. So large a proportion of these cases has been benefited, that I am much inclined to think that in some the invasion of phthisis has been warded off. The object of the quinine has been to counteract that general debility of the system which seems associated with the tuberculous cachexia; and that of the digitalis to prevent hyperæmia of the lungs, by moderating the action of the heart."

XVI. HISTORY OF THE LAST ILLNESS OF SIR ASTLEY P. COOPER, BART. AND EXAMINATION OF THE BODY AFTER DEATH.

For many months previous to his last illness, Sir Astley Cooper had occasionally experienced great dyspnœa, upon the slightest exertion; and it had been observed by his friends, that the peculiarity of his complexion bespoke some serious impediment to the circulation. It was not, however, till about six weeks before his death that he found difficulty in assuming the recumbent posture; and about that time he began to pass the greater part of his nights in the arm-chair, rather than attempt to lie down. He still continued to see a few patients during the day, both at home and at their own houses. He now became the subject of frequent cough; which was immediately brought on, if he attempted to recline. The gout, of which he had for several years experienced periodical attacks, shewed itself imperfectly in the fore-finger of the left hand: and his legs began to swell, owing to the depending position in which they constantly remained.

During all this time he refused medical aid; and it was not till the 22d of
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January that he consented to see any one, to whom he might state his symptoms. At the time he was first visited, he was sitting in his chair, with his body inclined forward, and his chin nearly resting on his chest; the pulse accelerated; not the slightest *bruit* nor abnormal sound in the heart; though the beat was extensive, and heard quite to the right side of the chest. The lungs afforded considerable bronchial rattle, but were neither consolidated nor compressed, and filled both cavities of the chest.

Although remedies appeared more than once to produce a temporary remission of his symptoms, and a further attack of gout in one foot seemed to afford some relief to the chest, yet, upon the whole, the disease advanced, and was attended by frightful fits of dyspnoea, during which his face was purple and his mind confused; and it was in one of these paroxysms that he died, on the morning of the 12th of February.

Shortly before his death, Sir Astley Cooper expressed a wish that the appearances which should be presented on the inspection of his body might be recorded in the Guy's Hospital Reports. He had particularly alluded to four points, the investigation of which he thought desirable;—a cured oblique inguinal hernia; a cured umbilical hernia; some suspected indications of phthisis in his youth; and an inability to sleep whilst lying on his left side.

Examination of his Body.—We shall omit what particulars seem unimportant. There was general and extensive œdema of the lower extremities, and in them only.

The head was not examined.

A globular projection, about the size of a large nut, was found at the umbilicus; which receded on pressure, leaving a well-defined rounded aperture in the linea alba, capable of admitting the end of the little finger. This protrusion consisted of a few congregated lobes of fat placed immediately behind the umbilicus, between it and the peritoneum; the free surface of which was corrugated, and presented a puckered appearance, most probably inflammatory, and the result of the artificial curative means which had been employed for a long period during life.*

The greater omentum, loaded with adipose matter, was contracted, and did not extend downwards more than two inches from the transverse colon. Some very old membranous adhesions existed between the right angle of the colon and the gall-bladder.

Some parts of the surface of the liver were slightly contracted and uneven; and sections of it presented hepatic venous congestion, approaching what is termed a "nutmeg appearance."

The kidneys were surrounded by a considerable quantity of adipose tissue, remarkably dense, and very firmly adherent to the fibrous capsule of the gland. Both kidneys were much congested with blood, rather larger than natural, their surfaces mottled, and slightly granular. These morbid conditions were most evident at the lower part of the left kidney; less advanced, but more generally diffused, in the right: and on the anterior surface of the latter, near its convex edge, were found two small cysts, containing a straw-coloured fluid.

The internal abdominal ring, on the left side, was rendered distinct by a tubular extension of the peritoneum for about an inch into the inguinal canal.

A depression existed in a corresponding situation on the right side, the bottom of which was firm, irregular, and corrugated; and upon very careful examination, a minute serous canal, not more than a line in breadth when opened, was

* Sir Astley wore a piece of cork, adapted to the umbilicus; and maintained in its place by straps of adhesive plaster, during many years, and until his fatal illness.

traced, extending from it, along the spermatic cord, into the cavity of the tunica vaginalis, being the remains of a congenital inguinal hernia.*

Upon raising the sternum and cartilages of the ribs, both lungs were brought into view; and retained their expanded condition, overlapping the pericardium, and manifesting no disposition to collapse. No pleuritic adhesions existed on either side of the chest; nor was there any effusion, except into the right pleural cavity, which contained about three ounces of sanguinolent rather turbid serum.

A little recent pleuritis was found on the middle lobe of the right lung, rendering it slightly adherent, by plastic effusion, to the adjoining lobes, to a small extent. Both lungs presented general vesicular emphysema to a very great degree, and their edges were more rounded than natural.

The larynx was not examined.

The lining membrane of the trachea and larger bronchi was smooth, but of a dark purple hue, from congestion in the minute blood-vessels: the same appearances extended throughout the bronchial ramifications, the smaller of which were filled with a very tenacious puriform mucus; and many of them were observed much dilated. Both lungs were extremely congested with dark blood, especially in and near the central portions of their lobes. At the superior and posterior part of the right lung was a small depressed and somewhat contracted surface, about the extent of a sixpence; a section of which exposed a calcareous mass, very uneven upon its surface, and about equal to the size of a small pea; it was placed about three lines distant from the pleura.

When the pericardium was opened, the heart was seen, very large, and distended; and about two ounces of rather dark or brown coloured slightly turbid serum occupied the posterior part of the cavity.

The right auricle and ventricle filled with very dark-coloured imperfectly-coagulated blood. The auriculo-ventricular valves sound. Through one of the pulmonary valves, near its angle of union with an adjoining valve, was a perforation nearly the size of a small goose-quill. A tolerably firm fibrinous coagulum was found in the pulmonary artery and its branches, extending, by minute prolongations, to the fifth divisions; these were made evident, by withdrawing them in a continuous mass with the forceps.

The left auricle and ventricle were occupied by a large quantity of black grumous half-liquid blood. A large portion of the mitral valve opaque, and a little thickened; otherwise healthy. The aortic valves thickened, and rather rigid at their attached margins; whilst the free margins presented a remarkably healthy appearance for their age.

The left ventricle was much dilated; its apex much broader, and more prolonged than natural; the parietes somewhat hypertrophied; and the muscular fibres of the whole organ were pale, flabby, and weak.

The aorta, which was small and narrow, pursued its usual course, but gave off the left vertebral artery between the left common carotid and left subclavian. The entrance to the arteria innominata was contracted, and slightly irregular.

Many small irregular yellowish opaque patches were seen under the lining membrane of the thoracic aorta and the ascending portion of the left subclavian artery. In most of the parts so affected, the internal membrane was much softened, breaking down under slight pressure; at three or four points it was destroyed to a small extent, admitting a thin layer of dark matter, probably altered blood, separating it in a slight degree from the subjacent tissue; this latter state was noticed near the origin of the arteria innominata and the commencement of

* Sir Astley Cooper wore a truss on the right inguinal canal, from the age of 19 to 25.

the descending aorta. The whole length of the abdominal aorta was full of black grumous blood; its parietes thickened; the lining membrane opaque, and raised by the sub-deposition of hard, almost bony matter.

EDINBURGH NEW TOWN DISPENSARY.

FEVER IN EDINBURGH.*

The medical officers of this Dispensary have given a statistical account of their practice during the year 1840.

Without going into this Report, which would be uninteresting, we may notice the facts relating to Fever in Edinburgh.

The months of January, May, and June, shew the greatest number of fever cases. Without including febricula and infantile fever, there have occurred during the whole year, 297 cases of typhus, being in the proportion to the whole practice of 1 to 15. Of these, the acting medical officers have sent 75 to the fever wards of the Royal Infirmary, and of the remainder treated in their own houses, there are accurately recorded 15 deaths, and 188 recoveries, that is, the ratio of the former to the latter is less than one fatal case in 12. It is to be remembered, however, that fever cases sent to hospital are in general marked by severity of symptoms, or they occur in families suffering from extreme destitution. Regarding the locality of fever, it is found that 32 per cent. are in the New Town, and 68 per cent in the Old; or, dividing the whole city into three districts, by two lines drawn from north to south; one through Pitt Street, Dundas Street, the Mound, and George IV.'s Bridge; the other by Broughton Road, Elder Street, Leith Wynd, and St. Mary's Wynd, the result is, that in the middle one of these divisions, 39 per cent. of fever occurred; in the east division the proportion is as high as 42 per cent., but in the west it is only 19.

These three divisions are not thought to be equally populous, but of late years it has been found that the middle one supplies the New Town Dispensary with the greatest number of cases of all other diseases. The low number of fever cases in the west division, which includes the densely populated Grassmarket and neighbourhood, is probably peculiar to the year 1840; and including their experience during several years, the medical officers are not prepared to select any particular locality in the Old Town as specially subject to typhus. In this respect their views confirm those of Dr. Alison, lately published in the Journal of the Statistical Society of London.

The number of fever cases would seem, if calculations are to be relied on, to amount, in Edinburgh and Leith, to 20,425, or thereabouts.

PERTH INFIRMARY.

CASES OF HÆMORRHAGE AFTER OPERATION, WHICH OCCURRED IN THE PERTH INFIRMARY. By FRASER THOMSON, M.D., Surgeon to the Infirmary.†

The following cases, indeed all, of secondary hæmorrhage, are interesting:—

CASE I.—*Amputation at the shoulder joint—hæmorrhage—recovery.*—George

* Edinburgh Monthly Journal, May, 1841.

† Ibid.

Marshall, aged 34, a discharged soldier, admitted July 8, 1840, for disease of the right humerus, near to the deltoid muscle, which has divided the bone, and communicates externally by a large ulceration, discharging an unhealthy matter. The year previous, he was admitted into the house for a malignant disease of the left testicle, which was removed. After consultation, it was determined to remove the arm at the shoulder joint, as there was not sufficient space otherwise to form a good stump. The operation was accordingly performed the next day; five arteries required the ligature; and the stump was dressed in the evening, after all oozing of blood had ceased. For the next two days he did very well; but on the beginning of the third, the stump became suddenly greatly distended, threatening to burst, and arterial blood flowing from the inferior angle. Pressure was immediately made on the subclavian artery with the finger, and maintained for some time, whilst broad straps of adhesive plaster, were applied to the stump to give it support, and the parts kept diligently wet with a frigidific mixture. These means were happily sufficient, and the patient was dismissed cured on the 10th of October following.

CASE II.—*Fistula in ano—operation—hæmorrhage—actual cautery—recovery.*—John Grant; weaver, aged 30, admitted 14th February, 1840, for a fistula in and of seven years' standing. On examination, three sinuses were found, having one common opening at the right side of the anus—one passing backwards, another forwards, and the third upwards, parallel with the gut, but not communicating with it—each about two and a half inches in extent. The two first were laid open a few days after admission, and the third was cut in the usual manner after they had healed. Its walls were found exceedingly hard, almost cartilaginous, having been twice operated on before. The bistoury broke in consequence, but another being at hand, the operation was quickly finished. Little blood was lost, the parts being dressed with oiled lint; the patient was put to bed, and, three hours after, Dr. Thomson was called to him. He had lost about 2 lbs. of blood; and the house surgeon had attempted to arrest the hæmorrhage, both by pressure and styptics, but in vain. A speculum was immediately introduced into the rectum, when the blood was seen flowing freely from numerous orifices. All attempts to apply a ligature having failed, the actual cautery was prepared. A bent copper spatula was introduced to protect that part of the gut not covered by the speculum; the fistula was thus the only part exposed. Every bleeding point was then touched by a heated iron wire, about a quarter of an inch in diameter, and not until this was several times repeated did the blood cease to flow. The patient, as might be expected, was a good deal exhausted, but nevertheless, made an excellent recovery, and was dismissed cured in the end of April.

CASE III.—*Disease of the knee joint—amputation—hæmorrhage—ligature of the femoral twice—recurrence of the hæmorrhage—ligature of external iliac—recovery.*—Thomas Dow, labourer, aged 46, admitted Jan. 16, 1840, with disease of the left knee-joint. An abscess was opened above the articulation, and his health began to suffer. Amputation was accordingly performed on the 24th of May, by the double flap operation—ten vessels required ligature, and a vein near to the bone continuing to bleed very profusely, it became absolutely necessary to tie it also. A large quantity of blood was lost. The patient was in consequence exceedingly faint, but rallied after the administration of stimulants. The stump was dressed in the evening. The progress of the case for the next ten days was very satisfactory, notwithstanding a slight oozing of arterial blood, which was easily arrested by cold and pressure. On the 12th day after operation, all the ligatures had come off, the femoral being the last. On the following day arterial hæmorrhage occurred with great violence, distending the stump and soaking the dressings. The tourniquet was applied to the femoral artery for a

few minutes till the vessel was tied. The ligature was passed round it rather less than an inch below Poupart's ligament, in order to be above the origin of the profunda. The bleeding ceased, and cold cloths were applied. The next day, however, early in the morning, it again returned as profusely as ever. The lips of the wound were opened, and the artery secured *immediately below* Poupart's ligament, with very little disturbance to the surrounding parts ; the hæmorrhage again ceased, and the cold cloths were continued.

He was now so feeble as to require constant stimulants. He rallied. " On the morning of the 5th day, however, hæmorrhage occurred for the third time. On this occasion the blood flowed from the femoral artery, where it was last tied. The patient himself was the first to detect it, and stopped any further loss of blood, by applying his finger over the vessel ; only a few ounces escaped. On going to the hospital, I was fortunate in getting the valuable assistance and advice of my friend Dr. Malcom. After examination, it was evident that the iliac artery must be tied, with what chance of success was by no means certain, from the great tendency to arterial ulceration. The operation was begun after the method of Sir Astley Cooper,—the skin being cut through, and the edges of the abdominal muscles raised. Neither the peritoneum nor the artery could be found. After a careful dissection through fatty matter and enlarged glands, the vessel was felt, considerably nearer to the pubis than naturally, beating very feebly, and much altered in appearance. An unarmed tenaculum, guided by the forefinger of the left hand, was attempted to be passed under it, but, notwithstanding the greatest care, it gave way. The wound was instantly filled with blood, the further escape of which was prevented by the forefinger of the left hand instantly compressing the vessel against the bone. The situation of the patient appeared now to be almost hopeless. It was agreed, after a short consultation, to attempt a ligature still higher up. To enable me to disengage my left hand, Mr. Frew, one of the dispensary surgeons, slipt his hand over mine, and compressed the artery. I then extended the cutaneous incision, upwards and outwards, for about two and a half inches. The fibres of the external oblique being separated, the internal oblique, transversalis, and fascia, being cut through to the extent of the cutaneous incision, the peritoneum was carefully detached from its cellular connections. At this stage of the operation, the difficulty that occurred in finding the artery in the first instance was fully explained. (A tumor of about the size of a small orange, rather flat, occupied the situation of the iliac artery just as it passes out of the abdomen, pushing the vessel to the pubic side, and by its pressure injuring its coats, whilst at the same time the peritoneum was thrown upwards.) The artery was now easily separated from the vein, and, as it appeared to be quite healthy, a ligature was passed under it about an inch below the origin of the internal, and tied with a single knot. The end of the ligature was brought out at the wound, which was closed by one or two points of suture. This last operation was fortunately successful in this nearly hopeless case, and from this time the patient never had an unfavourable symptom. The abdomen, being tender on pressure, was fomented with decoction of poppies, and a few leeches were required once or twice for a slight pain near to the wound. The ligature of the iliac came off on the 18th day after operation, and the patient was dismissed cured on the 31st of July, two months and four days after amputation of the limb."

These are instructive cases.

EYE DISPENSARY OF EDINBURGH.

ON THE ERADICATION OF INVERTED EYELASHES: AND ON THE PREPARATION OF FINE POINTS OF CAUSTICS FOR OPHTHALMIC AND OTHER PURPOSES. By JAMES HUNTER, M.D., F.R.S.E., Surgeon to the Eye Dispensary of Edinburgh.*

Dr. Hunter applies this method to those cases in which the edges of the lids *retain their natural direction*, and *not to cases of entropium*. He applies an irritant to the hair-bulbs, to destroy their reproductive function. He has found tartar-emetic answer best. The following he has found the best method of proceeding.

1. *To ascertain the presence and position of the inverted eyelashes.*—When they are white coloured, and of extreme delicacy, not exceeding the 1-800 of an inch in diameter, as is often the case, it is very difficult to distinguish them; the edge of the lid should be brought in contact with the cornea, so that the pupil or iris may form a good contrasting background, and though they may not be visible at once, the surgeon should look from a variety of positions, and alter the direction of the light till he sees them. A convex lens of two inches focus, and not less than an inch in diameter, should be held by an assistant so as to condense the light on the parts, which is a much better plan than using it as a magnifier. If, in order to make the puncture, the edge of the lid is to be removed from the cornea, it is well first of all to blacken the pale and delicate eyelashes with any dark extract, such as belladonna, to render them visible, when contrasted with the white sclerotic coat. 2. *The puncturing of the bulbs.*—This should be done with a lancet, or iris knife, entered close to the base of the inverted hairs, *in the direction of their growth*, to the depth of an eighth of an inch, and moved about a little, so as to widen the bottom of the wound, and cut the bulbs. In doing this, it is sometimes advantageous to stretch the part either with a small hook, or over a convex black horn spatula, such as is usually attached to the German wire speculum. 3. *The inoculation.*—This must be deferred till the bleeding has wholly ceased, when the lid being wiped very dry, the drilled end of a darning needle slightly damped, and dipped in powdered tartrate of antimony, or, what answers far better, the tartar emetic point made in the manner to be afterwards described, is to be inserted in the puncture, and held there for a few seconds. 4. *The evulsion of the inverted eyelashes is the last step.*—They should be seized lengthways close to their roots, and drawn with a slight jerk. When common dissecting forceps are used, they should be held *below* their shoulder, and close to their points, which are apt to separate a little when the fingers are placed higher up. The best forceps are those made without teeth; the holding part being merely rough polished, so as not to cut hairs. When the eyelashes are exquisitely fine, and slip through even the best made forceps, I have found it an infallible plan to damp their points with a saturated solution of shell lac in alcohol, and to grasp the hairs for a second or two before pulling them. A momentary, though sharp pain follows the inoculation, and more or less inflammation; but the latter generally subsides in the course of twenty-four hours, and if the operation has been properly done, it recurs in a day or two, in a subacute form, producing a slight pustulation, which, however, is of very limited extent, causing almost no annoyance, but is sufficient to destroy the functions of the bulbs.

* Ed. Monthly Journ. of Med. Science.

2. *How to prepare fine points of caustics, &c.*—"Eight years ago I was called to a case of profuse bleeding from leech bites on the scrotum; after several things had failed, I tried the well-known plan of inserting the sharp point of a stick of lunar caustic in one or two of the bites, which immediately ceased to bleed, but as they were very numerous, the caustic soon lost its point, and I tried in vain to stanch the others with the blunt end. The case being extremely urgent, and the patient nearly pulseless, there was no time to make a new point in the common way, so I wrapt the nitrate in a bit of paper, crushed it with my heel, and placing some of the fragments on a silver half-franc piece, I held it over the flame of a candle, and then dipped the triangular-pointed flat end of a silver probe, previously roughened on a stone, in the melted salt, which adhered, and on cooling formed a fine coating. This being inserted quite into one or two of the bites, they immediately ceased to bleed; to get another point of caustic on the probe was the work of an instant, and, in this way, a most alarming hæmorrhage (the patient being almost in articulo) was speedily arrested. I can recommend the plan to general practitioners when they meet with similar cases, and it will be found an improvement to heat the flat end of the probe before dipping it, and afterwards to hold it in the blue part of the flame for an instant, as in this way a smoother coating is procured. Since the above incident, I have been in the frequent habit of employing the same method to get a fine point of lunar caustic for various ophthalmic purposes, such as touching small sloughy ulcers of the cornea penetrating to the membrane of the aqueous humor, and in many other cases. I have also in this way got a fine coating of the nitrate on a probe, to be passed into the nasal duct in some cases of fistula lachrymalis; and I conceive it might be found useful in many cases of practical surgery, such as sinuses, affections of the nose, ear, &c., where caustic would often be introduced, but for the fear of serious consequences from the breaking of a common stick of it in such situations. The plan just recommended answers equally well for caustic potass, when a fine point or globule of it is required, as for producing eversion of a misplaced eyelash, or for destroying the remains of cysted tumors in the eyelids, or other purposes. The potass may be applied to the roughened surface of any common metal; but for the nitrate of silver, the probes must be of silver or gold, else the salt is rapidly decomposed and the probe destroyed. A fine point of tartar emetic, sulphate of copper, and similar salts, may be got by chipping their crystals, and then fixing the fragment on the end of the probe with sealing wax; but another plan, and the only one, when a long bristle, as it were, of these substances is required, is to take a wire, or the point of an old lancet, and heating it, and giving it a very thin coat of sealing wax, to push it whilst hot amongst the powdered salt. In this way a probe, which is to be introduced into a sinus, or into the nasal duct, may be coated with sulphate of copper or any other metallic salt; and this is the method I employ to prepare the flat points of tartrate of antimony for inoculating the bulbs of inverted eyelashes, using for the purpose a bit of platinum foil shaped like a lancet."

The first person we saw use the nitrate of silver on a probe in this manner was Sir Benjamin Brodie. This was many years ago, and we have since adopted the plan very frequently. We have cured, in this manner, several troublesome sinuses, fistula ani, &c. and have noticed it more than once in this Journal.

CASE OF TEMPORARY AMAUROSIS OF ONE EYE, FOLLOWING THE EXTRACTION OF A TOOTH. By J. HUNTER, M.D.*

In July, 1838, a lad, aged 17, applied at the Dispensary on account of a dim-

* Ed. Monthly Journ. June, 1841.

ness of sight in the left eye, which had come on rather suddenly and under peculiar circumstances. He stated that the sight of both eyes had been very good till four days previously, when, suffering from toothache, he went in the evening to a druggist to have a carious tooth extracted from the left side of the upper jaw. The operation was easily and dexterously performed, and the pain was not particularly excruciating. At the moment the tooth was loosened from the socket, he perceived a brilliant flash of fire before the left eye, which was followed for some minutes by several fainter ones at short intervals. On going to bed an hour or two after, the flashes of fire reappeared, and continued for about an hour, when they gradually ceased. Next day he found the sight of the left eye very much impaired, and all objects seen with it appeared enveloped in a thick mist. He also observed a sort of luminous coloured ring, whirling round as it were, in the interior of the eye. This state of matters continued much the same for the next two days, and, on the fourth day, he thought there was a decided improvement.

"On examining the left eye, its pupil appeared a *very* little more contracted than that of the right eye, but its shape was perfectly regular, and the motions of the iris unimpaired. In every other respect, too, the organ presented a perfectly natural appearance. The general health of the lad, who was of a somewhat sanguineo-nervous temperament, was good. He had no pain in the eye or in the brow, and no symptoms of cerebral congestion, or of derangement of the digestive organs. When he closed the right eye, the sight of which was sufficiently acute, and looked with the left one at the page of a book, printed in a type which I have since ascertained can be easily read by a good eye at a distance of 48 inches, I found he could not make it out at a greater distance than about 15 inches, and even then with difficulty, and at any nearer distance, though the letters appeared larger, they still seemed to run into each other. When I tried him with type about one-half the size of the first, he was unable to read a single word of it at any distance." "Neither convex nor concave spectacles improved his sight. His perception of colours appeared somewhat impaired, but I had not the means at hand of examining carefully the condition of the eye in this respect. The tooth which had been extracted was the first great molar on the left side of the upper jaw. On making firm pressure with the points of my finger in its socket, there was no unusual tenderness nor any shooting nervous pain produced, and I could not discover any remaining portion of the tooth, nor any splintering of the alveolar process."

Dr. Hunter left the case to nature, and at the end of a fortnight he could distinguish all but very minute objects. He did not return afterwards, so that his recovery was probably complete.

ROYAL INFIRMARY OF EDINBURGH.

CASE OF URINOUS VOMITING.*

Dr. Douglas reports this case from the practice of Dr. Henderson.

Marion Purdie, aged 25, a house servant, had laboured, for about six years, under the various pains and aches, accompanied with difficulty of micturition, which young women, out of Scotland, as well as in it, are very prone to suffer from. She was admitted in September, 1840, with pain in the loins and head, she had passed no water for two days previously, and now what she made was dark coloured and scalded her. The catheter was introduced pretty regularly—

*Ed. Monthly Journ. June, 1841.

she had a *hysterical fit*—and on the 14th September she passed 18 oz. of urine, and vomited 8 oz. of a fluid very similar to urine in appearance and odour. The matters vomited were received into a clear vessel, and instantly removed to a place of security.

“My friend Dr. Philip MacLagan, now Staff-Assistant Surgeon at York, then proceeded to analyze the fluid, and found that, after the addition of nitric acid and gradual evaporation, crystals were deposited: these were dissolved in a small quantity of tepid water, and after standing, most of the impurities having subsided, the clear liquor containing the nitrate of urea in solution was poured off and evaporated. The crystals thus obtained were pressed between the folds of bibulous paper, and afterwards dissolved in pure water: this solution was evaporated at a slow heat, when the crystals were again formed. I think it right to state, that I did not myself witness the act of vomiting, but I have no reason to doubt the testimony of the person who was present, and at my request took the precaution to receive the matters vomited into a clear vessel.

In the beginning of October she was attacked by typhus fever, probably from infection. The attack, though of short duration, was a smart one, and was accompanied with the usual eruption. On the second or third day of the fever, she had a fit similar to that formerly described, but less severe. The urine continued in its usual small quantity, until the eighth day of the fever, when she was seized with vomiting, and soon afterwards she passed 16 oz. of urine.

The matters vomited presenting a yellow frothy appearance, as if containing a considerable quantity of bile, were carefully preserved; and from them, with the assistance of my friend Dr. Philip MacLagan, I obtained, by the process formerly described, some crystals, undoubtedly consisting of the nitrate of urea.”

The patient, after this, steadily convalesced. Dr. Douglass adds:—

“Considering the cases of this kind which have been already published, I would not have brought forward the present one were it not that I have been enabled to avoid those sources of fallacy to which cases formerly published were exposed. The subjects of this disorder, mostly hysterical women, have been known in some cases to mingle urine with the matters vomited; in others, to swallow urine, and then excite vomiting. Besides, I do not know of any case in which the matters vomited were analyzed, their identity with urine being presumed merely upon the similarity of appearance and odor.

In the present case vomiting occurred when the patient was in that condition, so common in the advanced stage of fever, in which she was unable to turn herself in bed; so that the possibility of her having deceived us is put out of the question: and again, the analysis of matters vomited, places beyond a doubt the existence of urea in them.”

And yet we are not sure we believe this. The woman *may* have put some urine in the vessel—*may* have swallowed some—some urine *may* have been accidentally in the utensil on the last occasion (the long interval between the vomitings would have deadened precautions)—Dr Douglass's informant *may* have been careless—or the same informant *may* have been an accomplice—or one hypothesis *may* explain the first occurrence, another the second—in short, this *may* have been a piece oflegerdemain not a bit more extraordinary than some of the animal magnetism flams—and much more likely and credible than a departure from the ordinary laws of nature. For be it observed, that all these cases occur in young women. From the Okeys downwards, *they* are the favoured agents of the marvellous.

By the way, we observe in the Journal before us another of these queer cases—one of *coma* in a young girl, lasting an immense time—a wonderful and a hysterical complaint. There is no end to them.

OPHTHALMIC HOSPITAL OF CANTON.

It appears that this hospital has existed for some time, and that the natives were beginning to appreciate its benefits. But his pig-headed celestial majesty was unwilling that his subjects should be cured by barbarians, and resolved on an ophthalmia monopoly. The fortunes of the institution have been chequered of late.

It increased in prosperity up to the 23d of March, when foreigners, one and all, were deprived of their servants, and in a manner of their liberty. At the commencement of this state of things, the few indoor patients were desired by the senior hong-merchant to remove, and the hospital was closed. After a while, however, the officers on guard around the factories began to seek medical aid; and, though they permitted no communication with the people in general, they presently gave admittance to the physician's house, to men of rank, who were allowed a greater measure of liberty in visiting the factories. On the withdrawal of the soldiery and armed coolies, the number of patients gradually increased, but with a greater preponderance than before of official people; yet others were not wholly restrained from seeking relief for their maladies; females even overpassed the prejudices against entering the factories of foreigners. It was in August that, finding his private residence too small for the reception of the increased number of patients, and unsuccessful in every endeavour to return to the building formerly occupied, the physician removed to the premises of the Canton Dispensary of Messrs. Cox and Anderson.

Commands were issued by the chunghee, against any natives passing in front of the factories, be they men, women, or children; this was applied chiefly to females by the subordinate officers, who were anxious, in consequence, that no females should be received as patients. A few days after, however, appeared a young woman of about sixteen years, from the family of the kwanghee. This officer, of like rank with the chunghee, both being what we may call brigadiers, was associated with him in the control of the foreign factories; and the breach, by one from his own family, of his colleague's orders, reduced these at once to a dead letter. There was no longer any hindrance to the access of females; they came, however, with more of reserve than formerly; and some begged to be seen in boats before the factories, or at their own residences in the suburbs of the city; so that the evil of exclusion from the former hospital has not been without its advantages, inasmuch as it has given rise to a more ready and more frequent access into private families than otherwise would have been thought requisite.—The young woman from the kwanghee's family came with cataract of both eyes; and, though she would not remain as an in-door patient, but returned as soon as the cataracts were operated on, the operation was completely successful.

The smaller number of patients attending, in consequence of various restraints has happily left more leisure for prosecuting the study of the language, and for acquiring facility of writing it, as well as translating from it.

Among the more distinguished personages who have, directly or indirectly, availed themselves of the benefits that the Institution affords, were Howqua, the senior hong-merchant; Tsun, an officer from Yunnan; Lew, magistrate of Nanhai, and his brother; Wang, a commissioner or intendant of circuit in Kwangse, son of the Van tazhin of Macartney's embassy; the ganchasze, the poochingsze, heads of the judicial and the financial and territorial affairs of this province,—and, not least, the high imperial commissioner Lin, of whom all have heard so much.

The total number of patients that have been admitted and their names record-

ed, during the year 1839, has been 800 ; the aggregate number since the commencement of the institution in November of 1835, about 7000.*

STEEVENS'S HOSPITAL.

A CASE OF HÆMORRHAGIC DIATHESIS. By S. WILMOT, A.B., M.D., One of the Surgeons, &c.

In the year 1837, a boy four years old was taken to Dr. Wilmot's house, in consequence of a bleeding from the palate, just behind the alveolar process of the incisor teeth ; a very superficial abrasion of surface could be observed, from which blood continually flowed. The bleeding had existed for four days before Dr. W. saw him ; the blood was very pale, watery, and did not coagulate ; pulse very quick, and the entire surface of the body was extremely pale. Dr. W. applied the nitrate of silver, used pressure, and prescribed the infusion of roses, with sulphuric acid and tincture of digitalis. The flow of blood did not entirely cease for five days. In about two months a small tumour appeared over the right parietal bone ; attempts were made to effect the absorption of this swelling without success ; it suppurated, broke, and discharged pus. The following day a profuse hæmorrhage took place from the cavity of the abscess, which was arrested by pressure, and no return of bleeding took place after the fourth day. He soon began to gain strength after this attack. While in this state of improvement he fell while playing over a bucket, and received a transverse wound of the tongue, which divided the lingual artery on the left side. After the lapse of two days, he was brought into Steevens's Hospital, and the artery tied immediately on his admission. He had lost a large quantity of blood before he came into hospital, but recovered much sooner than could have been expected, and continued in tolerably good health for about seven months after the accident, when he was suddenly seized with bleeding from the gums of the incisor teeth of the upper jaw, which continued for three weeks. He was now readmitted into hospital, and appeared almost exsanguine, and was obliged to be kept in the horizontal position to prevent fainting. The bleeding was obstinate. The treatment adopted in this attack consisted of astringent lotions and pressure applied to the gums ; the internal remedies consisted of infusion of roses, sulphate of alum, and tincture of digitalis. On his return home the patient was attacked with fever, accompanied by delirium. After his recovery his parents sent him to the country, where he rapidly improved in health ; the recovery was so remarkable that at the expiration of two months he was taken home, all apprehension of a future attack being removed. The father and mother were, however, sadly disappointed, for he was little more than four months in town when he began to lose his appetite, flesh and strength. While in this state of declining health he was seized with a pain and swelling in the calf of the left leg. The swelled parts were black and yellow, presenting all the appearance of an ecchymosis from an injury of some days' standing. The mother said that she often observed black spots on different parts of his body which soon disappeared. He was free from hæmorrhage. Dr. W. ordered a cold lotion to be applied, and a mild purgative combined with bitters. The swelling and blackness had scarcely disappeared when he complained of pain in his head, which was succeeded by a bleeding from both nostrils. This attack of epistaxis was of five days' duration before Dr. W. saw him. The mother applied several popular remedies at home, and was induced to postpone seeking medical aid from day to day, owing to occa-

* Dublin Journal, May, 1841.

sional cessation of the bleeding for short intervals. The blood coagulated this time though the child was very weak and pale. Plugs of coagulated blood were formed now and then in the anterior nares; when this took place the blood passed into the pharynx and mouth. The epistaxis gradually subsided. The alarm which this poor little afflicted boy suffered after every attack of bleeding had not had time to subside, when a violent pain struck him in the left thigh; a swelling of the whole thigh soon took place. There was now no discoloration of the skin; he could not bear the swollen part to be handled in the gentlest manner, nor could he move that limb in consequence of the pain. He lay with the knee bent and the thigh flexed on the pelvis, and complained of starting and throbbing of the limb. There was a high degree of symptomatic fever. About the third day the pain abated considerably; the fever and swelling were now a good deal reduced; the limb became black and yellow, presenting an ecchymosed appearance. Before he was sufficiently recovered to leave his bed, the thumb and fore-finger of his right hand became painful and swelled, and in two or three days assumed a black and yellow colour. Since this attack, which occurred about the middle of July, he has had no regular medical treatment, and the disease is still unsubdued. He is now afflicted with a diarrhoea, but there is no bloody discharge from the bowels. His mother says that the contents of his bowels flow from him with great force, small quantities of blood come from both nostrils about every ten days. There are a few black spots on the trunk and arms about the size of a silver fourpence. At the last date of Dr. W.'s report, the boy was taking decoction of logwood with alum.

The father and mother are healthy. A brother and two sisters are also healthy. A sister of the mother's lost two boys from hæmorrhage, one, about four months old, died of bleeding from the gums after they were lanced; the other bled to death from an incision into an ecchymosed tumour produced by a fall.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS, &c.

ON THE DIAGNOSIS OF ABDOMINAL INFLAMMATIONS. By W. GRIFFIN, M.D., &c.*

Dr. Griffin has on a former occasion directed attention to the fact, that inflammatory, or other affections of the spinal cord, or of its nerves, at their origin, more frequently simulate abdominal and thoracic inflammations, and are more frequently mistaken and maltreated, than is at all imagined.

He reasons thus. There are three effects very common to inflammation, or disorder in the spinal cord, or at the trunks of its nerves. 1st, superficial tenderness, more or less exquisite, and either limited to the integument immediately over or about the affected portion of the cord, or extending thence to the front of the abdomen or thorax, in the direction of the spinal nerves; or occupying the whole cutaneous surface of those parts of the body, which are below the portion of the cord affected. 2ndly, pain either close to the affected portion of the cord, or at the extremities of the nerves, which have their origin there; or in the ganglionic nerves supplying the viscera, which have connexion with that portion of the cord. 3rdly, loss of power evinced in partial or complete palsy

* Dublin Journal, May, 1841.

of the parts or organs, to which the affected nerves are distributed. These effects often occur simultaneously, but any one of them may also occur independently of the existence of the others, offering very strong evidence, that the sensibility of the surface or skin, and that which exists in external organs, is dependent upon nerves, which, though sentient, are as distinct from one another, as they are from those on which the power of motion depends. Keeping these ordinary effects of disorder of the spinal cord in view, it must appear obvious, when we detect soreness or tenderness on pressure, in the region of the liver or spleen, or of the lower abdominal viscera, how important and essential it is for us to ascertain whether the soreness be superficial or deep seated, which we can almost always do by careful examination. Again, when pain is complained of in the region of the liver, or middle or lower parts of the abdomen, how necessary is it to ascertain, whether, as in the case of soreness, it be superficial; and, if deep seated, whether it be merely an affection of the nerves of the part, and probably connected with some affection of the adjoining portion of the spinal cord, or whether the internal organ itself be in a state of acute or chronic inflammation. Finally, if there be oppression in breathing, whether it arises from deficient action in the respiratory nerves, and, as a consequence, imperfect action of the respiratory muscles, or imperfect performance of the process of oxygenation of the blood in the lungs; or from actual inflammation, or organic disease of the mucous membrane, or parenchyma of these organs.—Or if there be obstinate constipation of bowels, whether it depends on spasm, or enteric inflammation; or whether purely on deficient power, or partial palsy of the muscular fibres of the intestines.

Dr. Griffin relates two highly interesting cases, and follows them up with this conclusion,—*that*,

In determining the diagnosis of abdominal inflammation, where both pain and tenderness on pressure exist, we should always endeavour to ascertain:

1st. Whether there be any pain or tenderness on pressure in the corresponding portion of the spinal column; because, if there be, although it may not absolutely decide, whether inflammation be present or not; it is quite sufficient to account for both the pain and tenderness, without assuming the existence of any inflammation.

2ndly. Whether if there be no spinal tenderness or pain, the soreness of the abdomen be superficial or deep seated, which may be ascertained with tolerable certainty in all cases by an examination directed to that end. And whether, if both superficial and deep-seated, as it usually is, in peritoneal inflammation, gentle, steady pressure with the flat of the hand can be easier borne, than with the points of the fingers. In pain and soreness from affection of the spinal nerves it commonly can be so borne, while in peritonitis every kind of pressure, and even the weight of the bed-clothes, is very distressing.

3rdly. Whether the boundaries of the pain or soreness extend beyond what the suspected inflammation could produce. Thus, if inflammation of the liver be suspected, and we find the soreness extending to the spine of the ilium, or groin, or to the opposite side of the abdomen to which the liver does not extend, it is obvious, the soreness cannot be attributable to mere disease of that organ. Again, if the whole abdomen be tender to the touch in a case otherwise closely resembling peritonitis, and we find the tenderness is not confined to the abdomen, but extends over the hips and lower extremities, it is obvious, we can attach no importance to the abdominal soreness as a sign of inflammation.

Finally, it should be recollected that constipation may depend on mere loss of power in the intestinal nerves, as well as on spasm, obstruction, or inflammation, as the treatment in each case must necessarily be modified, or directed by the supposed cause of this symptom.

IS THE REPRESENTATIVE SYSTEM ADAPTED FOR MEDICAL INSTITUTIONS?*

The following are the opinions of our Dublin contemporary on this head:—

"We do not profess to be politicians, or to deal with the question of representation, either in parliament, or in municipal corporations; but *of this we are certain, that the representative system is not at all calculated for medical institutions.* To say that the system would be a mere experiment, is comparatively a trivial objection; every anticipation must be as to the probability of direct mischief arising from such a proceeding. At present there is unfortunately but too much discord and display of bad feeling in our profession; but, as yet, party spirit and politics have had little or nothing to do with the matter. Introduce, however, the representative system, and every town in the empire, (in Ireland at least,) will be the scene of medico-political anarchy, and the far-lauded "Faculty" will merely be the arena for the medical demagogue; for it requires but little penetration to foresee, that impudence and blustering, and not professional eminence, would be the passport to a seat in the new assembly. Politics and medical reputation are in general heterogeneous articles, *and the politician is rarely a skilful, or, at least, an employed practitioner;* yet it is precisely such a character that would qualify him, under the representative system. If medical men are to steer clear of politics, and this seems to be agreed on, let them have nothing to do with representatives, and being represented. The best judges view elections in medical institutions, although sometimes necessary, as necessary evils; and consider, that the fewer they are, the better for the welfare of the establishment."

TWO CASES OF GLANDERS IN THE HUMAN SUBJECT.†

We are induced to notice these two cases, because it would appear that the symptoms resulting from inoculation of the human subject with glandered matter differ materially in different instances, and an acquaintance with those differences is requisite. Many persons seem to imagine that a set of distinct and specific symptoms exist, and that any departure from the standard is, pro tanto, evidence that the complaint is not glanders.

CASE 1.—*Report of a Case, by J. B. Tytler, Esq.*

Charles Higgs, a stout young cab-driver was admitted into the Westminster Hospital on the 16th June, having been ill for five weeks, with severe rheumatism, pains of the legs and arms, increased at night, but without redness or swelling of the joints; the tongue furred in the centre; pulse very frequent; bowels rather confined. About three weeks ago he was bled and blistered, and felt some relief. He had three several abscesses in the lower extremities. He was treated by warm bathing, diaphoretics, and regulation of the bowels, and appeared to be making some progress toward recovery, until 23d June, when he complained of severe pain in the left leg, and swelling of the knee, with muscular pains of the chest unaccompanied by any marked constitutional symptoms. Relief was obtained from mustard cataplasms to the knee, and he continued under the former treatment, without marked alteration, till the 29th. He complains of violent pain in the head, and has had a rigor, followed by heat and fever. Ordered eight leeches to the nape of the neck, and saline purgatives, with antimony, every six hours.

* Dublin Journal, Jan. 1841.

† Edinburgh Monthly Journal, June, 1841.

July 2d. He has again experienced some relief; the head has been shaved, and is easier; some patches of inflammation appear on the scalp. Ordered to continue the saline purgatives.

4th. An extensive but very flat carbuncle has formed on the vertex, and having been freely incised, is dressed with resinous ointment, and poulticed. There is considerable fever.

5th. Another carbuncle has formed on the left eye-brow. The right eye-lid and cheek are much swollen and cracked in several places, discharging an extremely fetid sanies. The scalp looks erysipelatous, and is dusted with flour, and covered with cotton wool. The pulse is quick and weak; and the breathing hurried. He complains of sore throat. He takes wine and cinchona.

6th. The throat is now extremely sore; the tongue, which had been usually pretty moist, is parched and red; breath fetid; some offensive discharge from the right nostril; pulse very rapid and small. On examining the throat, many irregular yellow ulcerated patches are seen. Wine and bark continued.

7th. A number of pustules have appeared on the arms and legs; the throat is more ulcerated, and the right eye closed by the swelling; the sanious discharge continues. He has fallen into a low muttering delirium.

8th. All the symptoms are aggravated; and his occupation having given rise to suspicions of glanders, which were confirmed by persons who had seen the disease in the human subject, his friends were minutely examined, and now acknowledged that not only had he been working about a glandered horse, but that a fellow-servant had died recently from the disease, by infection from the same animal. The horse also died. The patient himself died at 3 a.m. On examination 10 hours after death, the fauces were found coated with sanious matter, which had collected about the angle of the jaws, and flowed into the trachea and gullet. The palate and fauces, with the posterior nares were sloughy; a small ulcerated patch existed in the lining membrane of the trachea, just opposite the cricoid cartilage, and the larynx was generally much inflamed. The thoracic and abdominal viscera were healthy: the brain was not examined.

This case seems to have lasted long, and, for forty-eight days, the symptoms were very ill-defined.

*CASE 2.—Report of a Case of Glanders in the Human Subject. By
Alexander Graham, Esq.*

"J. S. a carter, aged seventeen, consulted me on the 2d February 1840, about a pain he had felt for some days previous in the index finger of the right hand, which was swelled, and slightly inflamed. The skin covering the first phalanx was of a livid colour, and there was fluctuation underneath. He had a considerable degree of febrile irritation. On opening the finger, a very small quantity of thin greyish-coloured fluid escaped, without affording any relief from pain. The soft parts appeared dead, but no line of separation was observable, nor indeed for many days after were there any symptoms of impending danger. He continued in nearly the same state till the evening of the fifth day from the time I first saw him, when the soft parts covering the first phalanx came off during the dressing, leaving the bone exposed. On removing the bone, which was easily done, without causing the least pain to the patient, the part presented the appearance of a very healthy-looking sore, and the redness and swelling of the hand and finger entirely disappeared. On the following day, however, a new and more alarming train of phenomena presented themselves. During the preceding night, he experienced a great tendency to rigors; there was increased pyrexia, and he complained of a pain over the spine of the left tibia, near its distal extremity. At this place there was a small circumscribed tumor, which was very painful to the touch. The integuments were slightly inflamed, and an obscure fluctuation was also observed. On interrogating him and his friends closely re-

garding the sore on his finger, it was discovered that he had been driving a glandered horse, and that it was possible it might have been produced by his finger, which was scratched, coming into contact with the diseased animal.

On the eighth day the tumor over the spine of the tibia had nearly disappeared, but he experienced severe and constant pain from the site of the swelling along the inside of his leg, as far as the middle of the thigh, which was tense and swelled. He shewed much restlessness and anxiety; his stools were of a darkish green color, thin, and fetid; his tongue was loaded, and he had great thirst. The pulse was quick and small.

On the following day (the ninth) his finger appeared to be healing; but he informed me that he had passed a very restless night, without sleep, and that the pain of his leg was more severe. The absorbents now became red and hard, their course could be traced distinctly as far as the knee joint. The leg and thigh were more swelled, and the tumor was hardly perceptible. The pulse was 120, and small, the skin hot and dry, and the tongue very foul.

Next day I found the leg and the thigh more swelled, and found it necessary to make several incisions on the inside of the leg. They did not bleed much, but nevertheless afforded the patient some relief. His bowels were open, and the stools were fetid. From this time he became gradually worse; and on the evening of the day before that on which he died, (the twelfth.) when I visited him in company of a professional friend, we found a general tumefaction of the whole body, but mostly of the left side. His head and face were much enlarged and, in addition to this increased swelling, there were all over his body and face several distinct and prominent pustules, resembling variola, none of which were visible the preceding day. The inside of the leg and thigh were also covered with a great number of gangrenous spots, of irregular size and shape, ranging from the bulk of a split pea to that of a shilling, but without vesication, or the least appearance of separation. These gradually increased in size and number until he died, on the 13th February.

During the whole course of his disease, and even up to the very close of it, there was not the least manifestation of any disturbance in the sensorial functions."

RE-UNION OF A SEPARATED PORTION OF FINGER. By A.

GRAHAM, Esq. Falkirk.*

A joiner of middle age, and apparently healthy constitution, while splitting wood with an axe, cut through the index finger of his left hand, between the first and second phalanges. He lifted the separated part from among the shavings, and immediately walked a few yards to a place where Mr. Graham happened to be. Being asked for the amputated portion, he took it from his waistcoat pocket, and laid it on the table. Mr. Graham fixed it on by two sutures, and adhesive strap, and on the fourth or fifth day, a pair of scissors being applied to the point of the finger, he distinctly felt them. Complete union took place, with restoration of the powers of the part which had been separated.

CASES AND OBSERVATIONS ON DIABETES. By ROBERT CHRISTISON, M. D. &c. &c.†

A long and valuable paper is contributed to our Scottish contemporary by Dr.

* Edin. Monthly Journal, April, 1841.

† Ibid.

Christison. He relates four cases. We have not space for these, and shall merely extract such observations as may strike us as instructive.

1. *Sugar not always discoverable in Diabetic Blood.*—The first case, says Dr. C., is a good example in support of the statement lately advanced by Dr. Macgregor, that in diabetes the urea is frequently not defective, as previous experiments seemed always to indicate, but is even sometimes absolutely in excess. It is at variance, on the other hand, with an equally important statement by the same gentleman, that sugar may be always detected in the blood. The search for sugar was made in this instance with every great care, and by a test which I have found capable of detecting a single grain of diabetic sugar in a thousand grains of the densest healthy urine. Yet I may say, that not a trace was indicated ; for the trivial evolution of gas might have come from the water, or from the yeast itself ! On another occasion, about eighteen months before, I was not more successful. It would appear, then, that the presence of sugar in the blood is not a general fact, and therefore can scarce form a necessary step in those functional derangements which constitute the pathology of diabetes.

2. *Voracious Appetite not constant.*—This patient, when put on animal diet, consumed less real nutriment than is contained in the diet which has been found necessary for prisoners not subjected to hard work, and which amounts on an average to twenty-five ounces, partly vegetable and partly animal.

2. *Strictly Animal Diet requisite.*—If a sensible amelioration is to be looked for with any confidence, the injunctions of Rollo, and his imitators, to enforce a rigorous animal diet, must often be faithfully followed. This object it is by no means so difficult to accomplish as might be thought, provided some variety be allowed, and articles be avoided which are hard of digestion, or abound too much in fat. In the present case no very decided amendment was observed for two months under a general diet ; but under a pure animal diet, which, so long as the man was under my notice, seemed to be followed by him without reluctance and with fidelity, the characters of the urine improved essentially in a few days ; and the improvement was afterwards steadily maintained.

4. *Quantity of Solids in the Urine to be rigorously determined.*—This appears the only true criterion of the progress of a case. The quantity of urine taken singly is a fallacious criterion, yet it is often trusted to in practice. Though reduced in quantity, the urine may be increased in density ; and in that case there may be no real amendment in the essential character of the disease,—the preternatural discharge of solids by this secretion. The quantity and density ought always to be taken together. For greater accuracy, it is well to calculate the total solids from these data, by the following formula. If D' represent the difference between the density of the urine and that of water, and Q the number of ounces discharged in twenty-four hours, the daily discharge of solids by the urine is $QD' + 0.00233$.—*Libr. of Prac. Medicine*, iv. 248.

5. *Mode of ascertaining the presence of Urea.*—In commenting on Case 2, Dr. Christison points out the abundance of urea in the urine, and proceeds :—For more than ten years I have been persuaded of its frequent presence, and have repeatedly proved its existence during my clinical lectures. During that period I have never failed to detect it. As at least five-and-twenty cases must have been examined by me in the interval, and on two recent occasions I succeeded in finding it where others had failed, it seems not improbable that urea is always present. The plan I have followed in searching for it, is to concentrate the urine, when quite recent, over the vapour-bath, to an eighth, but not farther, and then to add an equal volume of nitric acid previously diluted with its own

weight of water, and allowed to cool. Sometimes the nitrate of urea does not form for a few hours, or not till during the night, to the cold of which the mixture ought always to be exposed before we can venture to conclude, from the absence of crystallization, that urea is wanting. I have repeatedly known the nitric acid fail to act where the urine had been evaporated to dryness, or to a thick syrup, and then redissolved, even though the evaporation had been conducted in the vapour-bath. Although I am inclined to think that urea is always present, it is by no means always in excess, as in this and the preceding case. On the contrary, as will be seen from the fourth case, it is sometimes very defective.

6. *Laxity with regard to the Determination of Diabetes Mellitus. Precautions necessary.*—"The opinions which prevail at present as to the sanability of *diabetes mellitus* are contradictory. A few authors maintain, that, although very untractable, the disease may be cured in a reasonable proportion of cases; but the greater number of recent authorities state, as the result of their experience, that it is sooner or later, but inevitably, mortal; and my own observation hitherto has corresponded with that doctrine. The discrepancy may be in part explained in two ways. In the first place, some practitioners seem much too easily satisfied as to the evidence required to establish a cure of a case of diabetes. If they succeed in reducing the quantity of urine to three pints daily, in lowering its density to 1030, in removing the saccharine taste, and in restoring, as they will have it, the urea, a recovery is supposed to be accomplished: the patient is dismissed, probably from an hospital; and because his subsequent fate is never heard of, he is considered to have sustained a radical cure. I need not say how fallacious the last circumstance often proves. What should be particularly considered, however, is, that sugar may be abundantly present in such urine as that now described, and that it cannot justly be inferred to be wanting, unless the urine resist the test of fermentation with yeast about the temperature of 80°. But secondly, it may be strongly suspected that some reported cures have from first to last been merely cases of *diabetes insipidus*. It is difficult to account otherwise for the density of the urine being repeatedly stated so low as 1020, 1015, and even 1010. I will not deny that such a state of the urine is possible in true saccharine diabetes. I can only say that I have never but once seen it so low in density as 1021; and this was after the patient had been long under a regulated animal diet, along with opium. Such being the fact, I cannot but entertain doubts as to the genuine nature of a case of alleged *diabetes mellitus* with the urine of very low density, so long as absolute evidence is not furnished of sugar being present; and in some of the cases alluded to, reliance has been placed entirely on the taste of the urine, its odour, and the appearance of its extract, which are all fallacious criterions. I have met lately with two instances where the nature of the symptoms was thus for some time misunderstood. In one of them, a woman who was thought to be diabetic because the urine flowed profusely and seemed to have a sweet taste, its density proved to be only 1010. Being consequently led to doubt the soundness of the opinion previously formed as to her complaints, I proceeded to test the urine with yeast, and found that it did not contain a particle of sugar. The other case was that of a gentleman not many weeks ill, who presented all the general signs of saccharine diabetes, and passed a large quantity of urine which was thought to possess a sweetish taste and odour. I confess that at first, so long as my attention was confined to the general symptoms and sensible qualities of the urine, I felt inclined to concur with the opinion entertained that this was a genuine case of *diabetes mellitus*. But on examining the urine with care, I found its density was only 1004.5; urea was present in a proportion commensurate with its low density; yeast did not cause any evolution of carbonic acid at 80°; and nitric acid, digested for some hours with the urine in a moderate state of concentration, did

not produce any oxalic acid. Both of these cases, then, were examples of *diabetes insipidus*, and as such were much more susceptible of cure."

At the same time, Dr. Christison is far from disputing the possibility of cure, if the treatment be commenced at an early period.

7. *Case III* was a fatal one, granular disease of the kidney supervening. On this hint Dr. Christison speaks. At a time, says he, when the characters of diabetes were all accumulated in their severest form, the disease underwent a total change. The diabetic properties of the urine by degrees vanished; characters the very opposite began to present themselves, and the state peculiar to granular disease of the kidneys was soon established; the patient lingered in this condition for a long period, the urine being for some months about the healthy average in quantity, 1010 in density, albuminous, and entirely without sugar; death ensued from obstinate diarrhœa, one of the secondary affections most frequently observed in Edinburgh during granular disease of the kidneys; and in the dead body dropsical effusion into the cavities, another secondary affection, was also found, together with extensive granular degeneration of the renal textures. It is well known that, as death draws nigh in saccharine diabetes, the urine for a few days before death ceases to contain sugar, and returns nearly to its healthy state. But here is an instance where for several months before death, and to all appearance without any connexion with the treatment, all the remarkable properties of the urine which characterise diabetes, were completely and permanently removed. The argument drawn from the former class of facts, in favour of this disease being functional only, so far as concerns the affection of the kidneys, is thus, he thinks, not a little strengthened. "It is well to add," he continues, "that on several other occasions I have observed diabetic urine more or less albuminous. In one of these, the impregnation with albumen was considerable, and the kidneys were found after death in an advanced state of granular degeneration. But this case was not under my own care, and I cannot now obtain an account of it."

8. *Rapidly Fatal Diabetes—Small Amount of Urea.*—"It is seldom," observes Dr. C., "that the disease runs its full course, not curtailed by some incidental acute disorder, in the short space of eighteen months, which seems to have been the extreme limit here. The case is obviously a remarkable instance of that kind which has supplied some authors with a basis for the doctrine, that diabetes mellitus originates in disorder of the functions of the stomach and intestines. It commenced abruptly after an acute affection of that nature. Such occurrences, however, are rare. I have paid particular attention to this point for some years past; and every case I have myself attended for the last seven years was carefully ascertained to have begun without any precursory derangement of digestion. The characters of the urine corresponded with what I have called the acute nature of the attack; and departed more from the healthy state than in any instance I have examined before or since. I suspect that all along the urea must have been very greatly reduced, not merely in its proportion to the other solids, but likewise in its total daily amount. It was so at least towards the close, even at a time when the urine showed a tendency to return to its healthy condition; for on the twentieth and sixteenth days before death, its total amount was only 294 and 130 grains in twenty-four hours, the higher of which sums is a trifle more than half the average of full health in a robust well-fed man. I had never previously met with an instance in which sugar of a snow-white colour, and nearly pure, could be so easily obtained by simple evaporation.* The rapid

* I have recently met with a similar instance, which also, like that detailed above, commenced abruptly, and has presented an unusually acute character.

change which often takes place in the properties of the urine before death in diabetes, when unmodified by incidental diseases, is here well exemplified. In a few days the urine fell from 320 to 32 ounces; its density also sunk; and its urea became so abundant, as to exceed the daily discharge in a state of health, being on one occasion so high as 754 grains. On the 11th March I found the urine characteristically diabetic, as usual. When next day, in the absence of Dr. Peebles, his clinical clerk showed me amber-coloured urine, and reported that it had fallen in amount to a few pints, I felt assured from previous experience, that the patient, though to appearance more comfortable, and pleased with the change, was going to sink; and such was the speedy result.

We should observe that the patient died with tubercular deposits and excavations in the lungs.

VACCINE CRUSTS THE MOST EFFECTUAL PACKAGES FOR THE PRESERVATION OF THE VACCINE VIRUS. By JOHN EPPS, M.D. Director of the Royal Jennerian and London Vaccine Institution.

"The vaccine pock is similar to the *vitreous* humour occupying the largest portion of the chamber of the eye. It is a compages of vessels with their contained fluid. The *aqueous* humour of the eye escapes by a single puncture, like the virus of the vaccine pock: hence the indurated pock, the scab or crust of the vaccine pock, contains the dried matter in its cells, which, being broken down, and moistened with the wetted point of the lancet, has been found effective in hot climates, when attempts to preserve the vaccine ichor in other forms have failed. The crusts or scabs we have been able to collect in this country, we learn, by letters from the East and West Indies, have withstood the heat of their vertical sun, and spread protection through the plantations, and the surrounding districts.

"N. B.—These crusts, when levigated and moistened, and worked into a fine pulp, have been used by many practitioners in tropical climates with the most signal success. Mr. Johnston, the late secretary of the institution, was the first who suggested this plan."—*Lancet*, March 13, 1841.

DR. GUERIN ON THE GENERAL CHARACTERS OF RACHITIS.

Mr. Bigger, Surgeon to the Adelaide Hospital, has translated a valuable memoir of Guérin's for our contemporary of Dublin.* The memoir is long and will richly repay perusal. We must content ourselves with the general conclusions at which M. Guérin has arrived. They are as follows:—

1st. Rachitis is a general or constitutional disease of childhood, characterized by the alteration or the perversion, or even the suspension of the work of development and of reparation in the organism, and principally in the osseous system.

2d. The progress of rachitis, considered as an affection of the skeleton, in-

In this case the urine was 1035·5 in density, 218 ounces in daily quantity, and all but colourless. The daily discharge of urea was only 135 grains. When evaporated to the consistence of a moderately thick syrup, the residuum, under exposure for a few days to a cold of 32°, became a congeries of snow-white granular crystals.

* Dublin Journal, January, 1841.

cludes three distinct stages; that of *incubation* or *effusion*, of *deformation*, and of *resolution* or *eburnation*. To each of these periods, corresponding peculiar symptoms belong, and alterations peculiar to the osseous tissue.

3d. The influence of rachitis on the osseous tissue is shewn by four distinct orders of facts; deformation, alteration of tissue, arrest of development, and retardation of ossification.

4th. Rachitic deformation of the skeleton is developed in succession, from below upwards, from the bones of the legs to the thighs, from the thighs to the pelvis, then successively or simultaneously, the different parts of the upper extremities, the thorax, and lastly, the spinal column and the cranium. The degree of deformity accords with the order of development, whence it follows, that rachitic deformity of any portion of the skeleton implies always deformity of the parts situated below it.

5th. Most of the bones of the rachitic skeleton are always relatively less developed, in length and breadth, than the bones of the healthy skeleton; this reduction, which is independent of deformity, still follows the same law; that is to say, successively from below upwards, and gradually from above downwards; the proportion, according to which all parts of the skeleton are abbreviated from below upwards, can be expressed by a regular series of numerals, which admits of a very close deduction of the dimensions of the whole skeleton, that of one bone being known.

6th. The maximum reduction of the lower extremities, compared with that of the upper, establishes between them relations of length, which repeat and perpetuate those of the age when the disease was first developed.

7th. The reduction of the bones in rachitic adults is the compound result of arrest of development in the osseous system, under the direct influence of the disease, and of retardation of growth when the disease has ceased.

8th. The texture of rachitic bones presents characters totally different, according as they are observed during each of the three stages, or at the beginning or end of each stage, or according to the chronicity or intensity of the affection.

9th. During the stage of incubation of rachitis, an effusion of sanguinolent matter occurs into all the interstices of the osseous tissue, into the cells of the spongy tissue, the medullary canal, between the periosteum and the bone, between the concentric lamellæ of the shaft, between the epiphyses and the shaft, between the points of ossification in the epiphysis and their cells, in the short and flat bones, in a word, in all parts of the skeleton, and in all points of the osseous tissue, where branches of the nutritive vessels are distributed; from this effusion results the duplication of the parts composing the tissue, and the swelling and puffing out of different portions of the skeleton.

10th. During the second stage of rachitis, (deformation,) whilst the web-work of the osseous tissue loses its consistence and becomes softer, the matter which continues to infiltrate all the interstices of the bony tissue begins to become organized; it passes successively from the cellululo-vascular, to the cellululo-spongy form; this adventitious matter abounds principally between the periosteum and the bone, between the medullary membrane and the innermost bony layer, and in the short and flat bones, between the periosteum and the bone, and between all the laminæ.

11th. During the third stage, (resolution,) the adventitious tissue in the long bones, and in some of the short and flat bones, passes into the state of compact tissue, and appears to become confounded with the old tissue which recovers its former hardness; this addition of a new tissue to the old gives a very great degree of density, and above all, a very great breadth to some parts of the bones, which were the seat of the organization of new spongy tissue in the preceding period.

12. In that state which I have denominated rachitic consumption, and which results from an exaggerated degree of the affection, the duplication and distancing of the parts composing the osseous tissue has been such, that their union never

takes place, and the organization of the effusion does not occur. In this case the osseous partitions and laminae remain apart, and the consistence of the primitive bone is so much reduced, that there sometimes only remains a thin shell of the external part of the bone.

13th. The texture of rachitic bones in adults, when the disease has ended, presents a compactness and hardness, greater than in the natural state. This is called rachitic *eburnation*, when there is no longer any means of distinguishing the traces of union between the old and the new bone.

14th. Those deformities of the spine, which happen towards the age of puberty, and all those which have not been preceded by deformity of the legs, are not of a rachitic nature.

15th. Rachitis is an affection essentially different from *scrofula* from *tubercular affection of the bones*, as well as from *all kinds of ramollissement which occurs in adults*; for these latter, the term *osteomalacie* has been exclusively reserved.

COMPRESSION OF THE HEART.*

Mr. Adams brought this case before the Pathological Society of Dublin.

Patrick Devine, aged twenty-six, admitted into the Whitworth Hospital, for an attack of chronic bronchitis, accompanied by empyema. The disease did not yield to treatment, although active measures were employed; the cough was still severe, and the quantity of fluid in the chest seemed increasing. After some time he was exposed to cold and got much worse; the dyspnœa increased, accompanied by lividity of face, swelling of the jugular veins and inability to expectorate. About this period also he was attacked with erysipelas of the right arm, on which a large gangrenous spot subsequently made its appearance. On the 19th day after admission Mr. Adams found him sitting up in bed, gasping for breath, holding by the sides of his bedstead; his eye-balls protruded, his face livid and bathed in a cold perspiration. A redish serum was flowing from his mouth, and his respiration was inaudible, except at the upper part of one lung. His belly was swollen and tympanitic. He remained for about eighteen hours in this state, and died the following night. On examination after death, both pleuræ, but particularly the left one, were filled with bloody serum. The left lung was adherent to the posterior part of the pleura, compressed and carnified. The respiratory process seemed to be carried on wholly by the upper third of the right lung. The heart lay compressed and quite horizontal in its direction, the right ventricle folded on itself, and the whole organ compressed and flattened. Mr. Adams here exhibited the heart, the right ventricle of which, as well as the pulmonary artery, was quite empty, the ventricle itself being thrown into three rounded folds. This was the chief peculiarity of the case. Mr. Adams then exhibited the preparation, as also a cast taken from it, and observed, that this was a condition of the heart he had never before witnessed. He also remarked that the appearance of the parts would lead any one who examined them to infer that this condition was not one of recent occurrence. The parts of the heart which lay close to each other in the line of the folds were firm and of a parboiled aspect, shewing that the folds were of some standing. There was one symptom observed in this patient, viz., intermission of the pulse. How far this condition of the heart might explain it, or how far it was connected with the tympanitic state of the abdomen, Mr. Adams could not say, but he had frequently observed intermission of the pulse in connexion with abdominal tympan-

* Dublin Journal, May 1841.

nites. He was inclined, however, to think that for some time before death the right ventricle and the pulmonary artery had ceased to perform any functions.

CURE OF SPINA BIFIDA.*

Sir Philip Crampton brought this subject before the Society. He alluded to Sir A. Cooper's paper on the treatment of the disorder in the second volume of the *Medico-Chirurgical Transactions*. Sir Astley then detailed the treatment and results of three cases. The first was that of an infant two days old, in which he found a small tumour of the lumbar region, capable of being obliterated by pressure, the whole of the fluid passing into the vertebral canal. It immediately occurred to him, that if the fluid could be kept in, while the process of consolidation of the bones of the spine went on, a cure might be effected. Having placed the child in a prone position, he made a cast of plaster of Paris, adapted for making due pressure on the tumour, and secured this by proper bandages. He afterwards substituted for this a pad, from which much less inconvenience was experienced. At the age of eight years the child was running about and in good health, still wearing the pad, but not cured. The next case was one in which he attempted to confine the fluid by means of pressure, but having failed in this, he had recourse to a plan of treatment founded on a principle introduced by Mr. Abernethy, in the treatment of psoas abscess. He made a small puncture in the tumour, and having evacuated a portion of the fluid, he then closed the aperture with adhesive plaster. This was done ten or fifteen times, and at each operation a quantity of fluid removed. The child ultimately recovered, the bones of the spine having closed, leaving behind a loose moveable sac, and when inspected by Drs. Marcet and Yellowly some years afterwards, was found to be quite well. This, however, was the only successful case which occurred in Sir A. Cooper's practice. Another case of the same kind occurred in Sir Philip Crampton's practice. The operation of evacuating the tumour according to the mode employed by Sir A. Cooper, was performed twenty-two times, with some local irritation, but without any unfavorable or threatening symptoms. The sac gradually thickened, the consolidation of the bones went on, and in the course of seven months the cure was completed. The child is at present in good health, but has, as in Sir A. Cooper's case, a loose bag on its back. With respect to the spontaneous cure of the disease, Sir P. Crampton was not aware of any instance on record. In general the patients die at a very early age. He felt, therefore, extremely happy in having an opportunity of exhibiting to the Society an example of spontaneous cure in the person of a gentleman who had been recently under his care for another complaint. While examining his chest, Sir Philip Crampton detected the remains of the sac, originally the result of spina bifida, and as he expressed a wish to shew it to his professional brethren, the gentleman had in the kindest manner consented to come before the meeting, and exhibit the tumour. Sir Philip here shewed the sac, which extended over the lower dorsal and the lumbar vertebræ. The fissure in the vertebræ appeared to have been originally about three inches in length.

* Dublin Journal May, 1841.

EXTRA-LIMITES.

NOTES ON THE MEDICAL TOPOGRAPHY OF ALSTON MOOR. By *W. Ewart, Esq.*

THE vital existence of man, as well as that of all other organized beings, is acted upon and variously modified by surrounding influences—life being an assemblage of phenomena dependent not only on certain conditions belonging to the object which displays it, but on other states, likewise, of the locality where that object is placed, it must always be characterized by their conjoint peculiarities.

In studying the physiology and pathology of organization, the elements for consideration are numerous and diversified; and none amongst these are more deserving of attention than the cosmical and social. Man in his growth, habits, his health and disease, bears an evident impress of exterior agency—and as such, the influences of climate, social customs, and industrial pursuits, are every where to be traced.

Almost every country of the globe in its aggregate of human disease, manifests a phasis peculiar to itself.—Thus the inhabitants of one nation are the frequent prey of a disease which is never seen amongst the people of another, whilst the same diseases, should it happen to be endemic in both, often derives a modification from some local agency. The causes of disease therefore, and their modifications as manifested in various situations, will require the medical enquirer, who attempts their study, to direct his eye perseveringly upon every element possessed by these capable of influencing in the least degree organic actions. And thus alone can a rational doctrine of hygiene applicable to each particular place be founded.

Not only do the well-defined climatic divisions of the earth produce peculiar aspects of disease, but the different localities likewise of the same country, even though separated by a few miles only, often manifest the same character—and this diversity will be found to be almost wholly assignable to some difference in physical and social particulars. Look for instance at the dissimilarity in the general features of disease to be met with among the cotton mills of Lancashire—so instrumental in the development of nervous excitability—to those found amongst vascular agriculturists. The latter again, residing in fertile valleys, or plains rich in vegetation, are often exposed to causes of disease which the mountaineer never meets with whilst he breathes the pure air of heaven as it sweeps along the bleak mountain side, which exhales no miasmata, and where contagion cannot lurk—yet he is not left without his share of the many diseases which man inherits.

The study of medical topography is far from being uninteresting, not only as regards its bearings upon the prevention and treatment of disease, but as constituting an important branch likewise of natural history. Though much obscurity as yet hangs over the essential nature of vital phenomena, and the laws by which they are subject to modification by external agency, yet we are often enabled to trace clearly the effects of meteorological operation, and that of other material things, though their *modus operandi* may remain a mystery—thus heat and cold, drought and moisture, geological and botanic character, often force themselves upon the attention as evidently implicated in the modifying of vital actions, and the production of disease.

Alston-moor, famous for several hundred years for the produce of its lead mines, forms the eastern extremity of Cumberland, where it joins the counties of Durham and Northumberland; it constitutes a part of that bleak mountain range of moorland, called the "Penine Chain," which stretches far away in a southerly direction from the borders of Scotland. Crockfell, the highest elevation

of that range, bounds it on the West, from whence it stretches for some miles to the East, in a series of undulating bleak barren *fells*, at the bases of which, in villages, or isolated cottages, are scattered the abodes of the lead miners—situated as it is, in a part of the island of no great breadth between the German Ocean and Irish Sea, and at a considerable height—perhaps above any other inhabited place in England—its climate is characterized by coldness and moisture, and by frequent and sudden alternations. Changes of temperature are particularly frequent and striking. In the course of twenty-four hours these may often be witnessed to supervene in the most abrupt manner—intense frosts succeeding dripping thaws, or vice versâ. Its surface is almost altogether unprotected by plantations, allowing the winds to sweep over it unbridled, and its valleys are open and thoroughly ventilated.

On a general view of the diseases which prevail in Alston-Moor, it is instantly evident that it enjoys an eminent freedom from fevers of contagious character. These seldom indeed originate amongst its inhabitants, and when they are brought by some infected person from any other situation, they generally die with the death of their bearer, or disappear with his recovery.—Once during the past year have typhus fever and small-pox been respectively imported from a distance, but they immediately became extinct, and without any particular precautions being had recourse to for the purpose of effecting such a result—as if the climate of Alston-Moor was fatal to their prevalence. In the same way, when sporadic cases of the kind do occur, they show almost no tendency to spread. This immunity from contagious disease, and hostility to its propagation, may perhaps in some degree be connected with the physical character of the country. The atmosphere seldom stagnates upon it, and the surface of its "*fells*" are for the most part covered with moss, the antiseptic qualities of which, in its continued carbonization, may have some effect in preserving the air free from a malarious constitution. This the writer, at least, in his limited experience, has sometimes observed, that people residing upon tracts of mossy country are singularly free from diseases of virulent contagious type. The effect here conjectured however requires the confirmation of more extensive observation.

The diseases which prevail most extensively in Alston-Moor are the inflammatory and neuralgic, though the former very much preponderate. During the very severe winter season in particular, inflammation, or diseases approaching to it in nature, affecting the dermoid, mucous, glandular and fibrous textures, are exceedingly abundant. Thus some one or other of such diseases as ophthalmia, tonsillitis, tracheitis, bronchitis, diarrhœa and rheumatism, with exanthematous and papular or pustular eruptions, are almost daily to be met with. Pulmonary tubercle too forms an important item in the aggregate of disease, and the climate seems to lend awful facilities to the progress of those processes, by which, in defiance of all medicine, it hurries its devoted victims to their graves. Parenchymatous inflammations likewise, such as cerebritis, pneumonia, hepatitis, &c. as in all other situations, are sometimes seen, as are also fevers of the remittent type amongst the younger class of people, but these form a trifling number in comparison with the former. Inflammation of the genito-urinary mucous membrane, particularly that species, the prime prophylactic of which is a sound morality, is by far the most scarce of all.

There are two diseases, which, though not exclusively confined to Alston-Moor, yet as evidently depending on local influences, may be perhaps worth a short consideration. These are the miners' bronchitis—in local phraseology the "grovers complaint"—and bronchocele. The former is a disease which sooner or later, and in one form or other, attacks almost all lead miners. It assumes various aspects according to the simplicity or complication in which it may be manifested. Its cause is the constant inhalation of minute irritating dust produced by blasting the various argillaceous, siliceous, or calcareous stratifications, through which the miner must work his way in his search for ore, and in work-

ing that ore when found. This breathing of an atmosphere loaded with irritating particles seems scarcely ever to be the *exciting* cause of acute inflammation, though it highly predisposes to it—the continued congestion produced by it, being easily developed into active inflammation by exposure to the common exciting causes. And when this has been once effected, it is too apt to continue more or less in a chronic form. But even though the miner should for many years escape an attack of acute bronchitis, the air which he daily respires for six or eight hours, loaded as it is in various degrees with impalpable physical irritants, will for the most part gradually produce a chronic bronchitis of a very intractable kind.

Almost all lead miners, after having pursued their employment for some time, especially in a badly ventilated mine, though in other respects in perfect health, are on any slight exertion affected with dyspnœa. On quickening their pace for instance, or ascending an eminence, their breathing becomes hurried and obstructed. This evidently arises from the congested state of the bronchial mucous membrane, and the secretion which it exudes, abnormal quantities of which are expectorated, generally tinged of a bluish cast by the powder that is inhaled in the mine. The miner may continue in this state for many years, subject perhaps to occasional slight aggravations from catarrhal attacks, but able without much inconvenience to pursue his avocations. At last, however, his cough becomes gradually more frequent and teasing. His appetite fails, especially in the morning, he frequently leaves his breakfast untouched, and sets out for the subterranean scene of his operations with feelings of languor and nausea. His dyspnœa is more urgent, which, with increasing debility, obliges him to rest repeatedly in walking even the distance of three quarters of a mile. His expectoration increases in quantity, and for the most part consists of frothy and puriform mucus, sometimes streaked with blood. His strength has now much declined, he is much emaciated, and his partially suffused countenance and purplish tinged lips indicate obstruction of the pulmonary circulation and mal-oxygenation of the blood. He is now unable to work, and the increasing severity of his ailments confines him to his house. His cough gets worse and worse, and there is more and more expectoration. Sonorous and mucous ronchi are very evident to the most inexperienced auscultator; but the several pulmonic regions sound generally clear enough on percussion. Hectic fever supervenes, debility increases, and from a few weeks to some months after relinquishing his employment, he sinks exhausted. Such is one form of bronchitic affection displayed by the lead miners of Alston-Moor.

Again, the miner after feeling a gradual impairment of health for some years, as always described, and continuing his employment, though from dyspnœa and debility very unfit to do so, is while still working suddenly seized with acute bronchitis, perhaps conjoined with pneumonia, and in two or three days droops asphyxiated.

In other cases, the miners, while still comparatively young, healthy, and able, are seized with acute bronchitis. By appropriate treatment this is sometimes completely subdued, allowing those who had been affected to return to their employment, but at other times, in spite of all remedies, it lapses into a chronic form. A sort of irritative fever continues to prey upon the system, the cough is very troublesome, and great quantities of bluish frothy and puriform mucus are expectorated, especially towards morning. The patient often dies exhausted in a few weeks or months. In two fatal cases of the latter kind which came under the writer's observation, there were expectorated, towards the end of their course, small earthy concretions. In one patient two or three small bits about the size of flattened pin's heads were ejected with the expectoration and grated upon his teeth. In the other, a much larger concretion, about the size of a pea, and of irregular shape, was coughed up, imbedded in a sputum, black and gelatinous looking in the centre, which was surrounded with matter of puriform appearance.

It was of a white colour, and seemed to have been moulded into the shape it possessed, being pyriform, and having one or two small projections blackened on the top. On treating it with dilute muriatic acid it was dissolved, disengaging minute bubbles of gas, indicating it to be the carbonate of lime. In the solution there floated small flocculi, which appeared to be animal matter that had constituted part of its composition. These concretions were no doubt the result of a depraved secretion in the pulmonary tissue, and had the patients not been cut off so early as they were, it is probable that in time they would have been the subjects of *manifest* tuberculous disease.

There are various other aspects of chronic bronchitic disease evinced by lead miners. Thus, some who have fortunately given up their mining occupations before any serious structural derangement had been produced in their bronchial apparatus, continue in after-life to display symptoms, more or less severe in various cases, of simple bronchial congestion, which seems of itself to have little effect in abridging the term of their existence. In other cases an attack of acute bronchitis results in the establishment of a persisting irremovable bronchorrhœa characterized by dyspnœa, which has paroxysmal aggravations followed by a copious expectoration of a thin slightly viscid glairy mucus. This in one case, from the person's own account, has continued 15 years, since on exposure to cold he was seized with what, from the symptoms he describes as having attended it, must have been acute bronchitis. In some cases the miner, after having laboured under bronchial congestion for some time, as produced by his employment, has a severe attack of hæmoptysis, which leaves him much debilitated, and for the remainder of life he has dyspnœa accompanied with excessive irritability of the bronchial fibres, as evidenced by frequent attacks of a dry convulsive whistling cough consequent on the least excitement. Sometimes bronchial congestion is accompanied by spasmodic asthma. In such cases the usual dyspnœa is subject to sudden aggravations relievable by antispasmodics or warm coffee. Such is a very brief sketch of the various phases of the pulmonary complaints to which the lead miners of Alston-Moor are subject. Such diseases, I am given to understand, are much less prevalent now than they formerly were, which circumstance is ascribable to the improved ventilation of the mines, and to the praiseworthy exercise of their authority, by those who possess it, in the promotion of cleanliness and temperance amongst the miners.

As regards the treatment of these affections little need be said. In the more aggravated cases medicine avails but little in producing beneficial results, but in others of more incipient character, and particularly when accompanied by gastro-hepatic derangement, much benefit may be derived from a proper course of medicine. In such cases a mercurial purge, followed by a few doses of a combination of aloes, ext. hyosciam. and ant. tart. along with counter irritation, have appeared very effective in relieving functional oppression and the congested state of the bronchial mucous membrane. The principal indication is, however to remove the miner from the operation of the irritating inhalations which prove either directly or indirectly the cause of his complaints; but such can alone be done by the relinquishment of his employment, which necessity perhaps compels him to avoid until it is too late.

Bronchocèle exists rather extensively amongst the inhabitants of Alston-Moor, which place has every claim to rank among the goitrous districts in England. It is principally to be seen affecting the female sex, at all ages from seven or eight years upwards. Only two cases in the male have come under the writer's notice, which however were, and still continue to be, tumors of no inconsiderable development. In both cases the morbid enlargement is principally in the lateral lobes, forming two large unseemly projecting tumors on each side of the trachea. The connecting portion, though in some degree affected, is much less so than the other parts. A considerable reduction of size has been effected

by the external and internal use of the iodine treatment, though much remains as yet for it to accomplish.

Perhaps the most interesting portion of the whole medical history of bronchocele is that relating to its etiology. Very much obscurity as yet hangs over its exciting causes, for as the inquiry is surrounded with some difficulties, the researches of those who have directed attention to the subject, have done little for its elucidation. Nothing can shew more clearly than the various causes assigned for the production of goitre, the limited nature of man's mental energies, and his frequent willingness to rest content with a plausible probability, rather than attempt to push his way to the goal of truth through a rigid analysis, and a comprehensive induction of facts. As bronchocele occurs endemically for the most part, in localities of similar physical character, viz. in the valleys of mountainous regions, it is certain that these must in common contain its cause or causes. Various local peculiarities have at different times been assigned as such, but the exclusive morbid agency of which has been contradicted by more extensive observation. Thus the use of melted snow, or the waters of calcareous springs as a beverage, has by some been reputed the exciting causes of bronchocele; but the supposition of such an effect, resulting from the use of these liquids is met by such a weight of antagonist testimony that it can no longer be entertained. That bronchocele may result from certain malaria possessed by goitrous districts is certainly not improbable, though if such is the case, that must be of a kind very different from those other morbid agencies to which the name is generally applied.

Judging from the historic details connected with the bronchoceles of Alston-Moor, as given by the patients themselves, the inference is not unlikely to be correct that, these thyroid enlargements are not the peculiar product of any one agent exclusively, but that several may concur in their development. On questioning a considerable variety of affected persons as to the origin of their complaints, some confidently pronounce a cause, while others affirm that their swelled necks came gradually, and they know not how. A pretty large number of married women date the advent of their complaints from some difficult parturition, attributing their production to the straining of the parturient efforts, and state their reason for supposing such to be the case, is, that they first perceived the swelling either during a difficult labour, or immediately on its completion. Another class of persons, comprising both the married and unmarried, attribute the origin of their affections to their frequent employment in lifting heavy weights and bearing them upon the head. A few again blame some peculiar quality of the water which they use—and it may be here stated that a great deal of the water consumed in Alston-Moor issues from the limestone—though the disease is far from being confined to those who make use of such, nor do they shew any peculiar liability to its supervention. Others, as already mentioned, make no pretensions, even to a supposition, but freely confess their ignorance of the matter.

The two exciting causes most generally assigned, it will be perceived are one in character. They are evidently both such as to produce congestion in the thyroid gland in common with other parts of the head and neck; and being so, are not unworthy of having their claims considered as to their effect in producing the former's enlargement. They themselves certainly cannot be the cause of bronchocele, for in other districts, where the inhabitants are equally exposed to them the disease is never seen. We are consequently driven back to search for some co-operating, and more active cause, in the physical character of the goitrous locality. It is every way probable that the agencies already mentioned, as well as others operating in producing inordinate congestion in the thyroid gland, will in all situations predispose to its enlargement. But as only some situations possess the especial exciting causes, it will be in these alone, where the disease becomes developed. Thus, what will assist in lighting up the disease in a goitrous

district, will be altogether ineffectual for such a purpose in one of a different character. In the same way as that state of the system which in Egypt might subject its possessor to an attack of plague, will, in this country, have no such effect, where the immediate pestiferous cause exists not.

What seems to be the principal element that gives effect to all other co-operating agencies in the production of bronchocele in Alston-Moor, is its meteorological character; in particular the frequent alternations of temperature so highly productive of vascular congestion. As has been already mentioned, these alternations are in this locality particularly sudden and extreme—and if, by any means, such as straining, or these alternations themselves, the tone of the capillaries of the thyroid gland, is in any degree diminished, its congestion is too likely to be perpetuated by those meteorological causes to which the people are almost daily exposed, according to that law of the animal economy by which vascular determinations are generally directed to a weakened part. Considering the peculiar structure of the thyroid gland, its loose yielding texture, and its inactive unsecreting character, it is probable that it is little amenable to inflammation properly so called, and that those causes, which are generally so active in exciting real inflammation and its train of consequences in other tissues, such as tonsils, parotids, and mucous membranes, in it only effect that congestion too passive to be resolvable by purulent secretion, and there being no natural secretion to increase, it alone leads to that progressive hypertrophy which is the peculiar characteristic of bronchocele. It is well known that vascular congestion is the grand cause of hypertrophy, whether in the overlabouring heart, the blacksmith's biceps, or the urinary bladder straining to overcome obstruction—the exalted energy of their functions only acting by attracting to them more blood. It may be asked—why, then, if bronchocele is the product of the same meteorological causes which so generally excite tonsillitis or catarrh, does it not likewise exist in those places where these diseases are often seen? In answer, it may be stated that, in no situation in Britain where the writer has as yet seen, do these causes prevail so frequently, or with such intensity, as they do in Alston-Moor. Neither has he ever witnessed the aforesaid inflammations so excessively abundant as they are in the place in question. And from this it may be inferred, that bronchocele is endemic only in those localities where all nations of temperature—or it may be other causes—productive of congestion and inflammation, are in prevalency and greatness above the usual standard—and that it is only one feature of their produce—one among the numerous class of congestive and inflammatory ailments which will be found to obtain amongst a people exposed to these causes in such an exalted degree. Alternations of temperature are not the *only* cause of local determinations, though they seem to be the grand source of such in Alston-Moor; and being so, hold forth a strong claim to be the principal exciting cause of bronchocele. Whether this affection is associated with the same prevalency of congestive and inflammatory diseases in other gouty districts, the writer is unable to say. Should it be so, the views now stated will be strengthened—but if it is otherwise the circumstance will certainly go far to invalidate them.

NOTES ON THE TREATMENT OF CHRONIC PLEURISY, WITH EFFUSION.

By the late *James Hope*, M.D.

THE following paper must possess a high interest for our readers, when we inform them that it was commenced by Dr. Hope during his last illness, and concluded on his death bed. Unable to complete it as he could have wished, he was compelled to dictate it in the shape of notes, which he finished only four days before his decease. To those who knew Dr. Hope well, this zeal for science and his fellow-creatures will occasion no surprise. It was consistent with the character of the man, who died as he had lived, an accomplished physician and a good man.

The symptoms of chronic pleurisy, with effusion more or less filling one side of the chest, are perfectly well described by systematic writers, as Dr. Law, (*Cyclop. Pract. Med.* p. 395 *a.*) yet there is no class of affections more habitually overlooked by the bulk of the profession than this—certainly one of the most destructive to life if neglected beyond a certain period. I am glad to notice that Dr. Stokes makes a similar remark. Some fault attaches indeed to the systematic writers alluded to, for their mistaking the state of anæmia, with its quick pulse, for irritative fever, by which they not only mislead themselves but also their readers, as to the nature of the patient's condition, and, consequently, as to the appropriate means of cure. It has resulted from this, that a far too unfavourable impression of the curability of chronic pleurisy with effusion, or empyæma, as it is called after a certain time, has become prevalent. Dr. Law thinks more favourably of the possibility of cure. He with justice, however, excepts tubercular cases, and those in which the patient is not assisted; yet I think that he is mistaken in supposing that a copious evacuation from some other organ may not occasionally prove critical and empty a chest. A case occurred to me in which absorption did not commence so soon as I expected: namely, within a week, when the patient was attacked with hypercatharsis to the amount of 60 watery evacuations in two days. The chest, meanwhile, which was dull within two inches of the left clavicle, and had the heart protruded to the right side of the sternum, had completely emptied itself, and the patient recovered.

Broussais met with only one favourable case out of eighteen. Laennec's view was equally gloomy, and Dr. Townsend's is no less so; Dr. Thomas Davies feels the same so strongly, that he hurries on the operation of paracentesis at a very early period of the disease—a circumstance which is the main cause of the unusual success of the operation in his hands. From this aggregate of unfavourable opinions it results that, at the present time, there is a prevalent doubt whether the fluid of empyæma is ever absorbed. This fluid, it may be remarked in passing, may be either sero-fibrinous and albuminous, or contain pus in any degree up to its pure condition. This seems to be now a settled question, and I think it ought to be so, as the fluid, in healthy subjects, kills not by its quality, but by suffocating.

I cannot feel surprised at this want of success in the cure of empyæma, when I notice the unsettled, vacillating, inadequate treatment recommended even by those writers who think most favourably of the possibility of a cure.

Dr. Law's treatment comes nearest to that which I have found effectual, but he is too timid in continuing the gentle use of mercury, from fear of its inducing irritative fever and hectic. This supposed irritative fever, however, is, in most cases, nothing more than excitement of anæmia, (a fact of which he does not seem to be at all aware, as even in the convalescent period, he does not even name iron as a remedy,) and the hectic is a necessary consequence when the fluid is pus,

and this is diffused through the whole circulation by the process of absorption. I have steadily continued the gentle external use of mercury through the most violent hectic, coming on twice a day in tremendous paroxysms; while I have counteracted this by the free use of mineral acids; and by a diet, not only of strong broth at luncheon, but of animal food at dinner—the patient's tongue being clean, and his appetite and digestion always good.

Dr. Townsend seems principally to follow Broussais (*phlegmasie chronique*.) and Laennec, neither of whom make use of mercury, and the former would only venture on a blister as an experiment! He, likewise, falls into their great error of mistaking *anæmia* for fever, and, therefore starves the patient at a moment when there is a great demand for animal nutriment in any way in which it can be borne. The treatment of Dr. Thomas Davies is that of calomel and opium, and counter-irritants in the first stage, but he thinks these inefficient in the stage of chronic effusion. He, therefore, as already stated, hurries on the operation of *empyæma*. The writer on pleurisy in the *Library of Practical Medicine* (Vol. III p. 124) seems to have but an indifferent opinion of the curability of chronic pleurisy with effusion. After the third week or so, he thinks mercury of little benefit, and that it is even injurious when the hectic stage comes on; but approves of counter-irritants, and follows Dr. Stokes in his approbation of the use of the hydriodate of potass, to act both as an alterative and a diuretic; also of the iodide of iron.

Dr. Stokes, whose writings on pleurisy I had not the pleasure of seeing till long after I commenced my own observations, I find to be far the most successful in his treatment of chronic pleurisy and *empyæma*. In an excellent chapter, containing a considerable portion of original matter—some, perhaps, a little fanciful—he mentions that he cured twenty cases running by the use of a pint daily of cold solution of Lugol's iodine, and from a quarter to half an ounce of the ointment rubbed into the side. He is, likewise, very favourable to the use of blisters.

I have myself been instrumental in curing five and thirty cases consecutively, during the space of four years, but principally two years and a half, while I was assistant-physician to St. George's Hospital, no cases having been withdrawn, or added from an anterior date, except three; the 1st was Mr. Garnett, whom I saw about 1833, who had also fatal ulceration of the bowels; the 2d, the Rev. Mr. —, whom I saw about 1833; the 3d, an out-patient of St. George's, whom I found to have tubercular disorganization of the lungs, and whom I, therefore, transferred to Dr. M'Leod, as an in-patient of St. George's. Paracentesis was practised; the tubercles were found; and he died from inextension of the lung; which was bound down to the spine. The remainder of the cases all dated within three months, as well as I could make out by most carefully catechizing the patient respecting the first feeling of pleuritic pain or ailment of any kind. The pain was frequently forgotten, until the patient was perhaps asked whether he had not had a little lumbago, pain in the back, &c. Nor is this surprising; for copious effusion very soon relieves pleuritic pain. A very great proportion dated within two months, and from that time down to three weeks or a month. I seldom saw them earlier than a month, as they were either neglected and misunderstood cases amongst the out-patients of St. George's, or private patients whom I was called to see in consultation at a late period of the disease; the complaint of the latter having, with few exceptions, been also overlooked.

The following is a list of the previous duration of the disease in all my private cases, amounting to seventeen; but I lament to say that I cannot at present give the dates of those, eighteen in number, who were out-patients of St. George's, and the notes of whose cases I drafted out of 15,000 notes of cases, which I saw at St. George's, (for I took notes of almost all.) The notes of these eighteen cases having been separated from the others, I have unfortunately mislaid them.

Unless therefore, I recover them. I must trust to the confidence of the public for the accuracy of the facts. They were all demonstrated, as they occurred, to the students of St. George's.

Coachman of Sir Clifford Constable's, ill a fortnight, but previous bronchitis.

Miss Caldwell, ill from two to three weeks.

Robert Watts, ill eighteen days.

Mr. Smith, ill three weeks.

Mr. Tapson, ill a month.

Patrick Millerick, ill a month.

Mr. Eade, ill five weeks.

Mr. Garnett, ill six weeks.

Henry Wade, ill two months.

Mr. Downing, ill two months.

Aldersgate Street Student, under Mr. —, for supposed phthisis—had supposed lumbago nine weeks before.

Miss Miller, disease of ten weeks standing for two months.

The Rev. Mr. Barter, two months and a half, but previous pneumonia.

Mr. Hamilton, ill three months.

Eliza Gray, ill three months.

Mr. Morgan, stitch in back three months before. Ill ever since.

The Rev. Mr. —? ill upwards of three months.

As I have not leisure to continue this paper at present, I subjoin the following memoranda of how I shall proceed if time permit.*

The private cases, being in great detail, and in general features greatly resembling each other, it would be useless to give the whole in full. Therefore pick out a few which give at length, as general types—for instance, Miss Miller, Mr. Morgan, and Sir Clifford Constable's coachman—the remainder insert in an abbreviated form, together with such of the out-patients of St. George's as I can recall to memory, though I have lost the notes of their cases.—Shew that I used mercury in all degrees of intensity, so as to ascertain what quantity was the most effectual, but, at the same time, least injurious.—Shew that I always used opium, in full proportion, with the mercury, and that I used the milder and the external forms when the others could not be borne—thus taking *especial* care to protect the mucous membranes.—And that I found prompt and free salivation by calomel and opium, and the use of one or two drachms of ointment on each groin and axilla night and morning for forty-eight hours, (in conjunction with the other remedies presently to be specified), produce the most rapid and satisfactory effects of absorption, in cases where the dyspnoea and faintness seemed to me most urgent and dangerous. It was quite common, and, in fact, occurred in the majority of cases, that the fluid descended one-third, and still oftener one half, down the chest, within the space of forty eight to sixty hours, carrying with it the extreme dyspnoea and faintness, to the great relief of the patient.

Say that blisters were used from the first, and that the following became my settled plan of managing them. One blister 6 inches long, and $3\frac{1}{2}$ broad, exclusive of margin, was placed longitudinally over, and a little to the outside of the angles of the ribs, leaving space for another of similar size between the first and the spine. Great care was taken not to remove the cuticle, (one means of which was to cover the surface of the blister with silver paper,) as this forms by far the quickest healing plaster; but after about forty-eight hours, during which the running was absorbed by dry napkins, carefully prevented from adhering, it became requisite to cover the whole with the mildest soap-plaster, spread on soft calico, to prevent the cuticle from being accidentally abraded. In this way all

* It will be observed that, from this point, the form of private notes is adopted.

irritation promptly subsided, that is, in the course of from two to three days, and the patient was ready for the second blister, which was placed between the first and the spine. It was similarly treated; and, at an equal interval, a third was placed in front of the original one; that is, rather forward in the axilla. When pain indicated the possibility of a pleuritic stitch in any part of the side, it is needless to say that the first blister was placed over that—Say that diuretics are conjoined; viz. Squill; Sp. Æth. Nit; juniper; iodide of potassium, and when there is no irritation of the mucous membrane, the various other preparations of potass. Digitalis, by creating faintness, is apt to confuse the symptoms; I do not therefore use it till later. Where all these remedies had failed for two or three days, and dyspnœa continued as urgent as ever, I have occasionally used a powerful hydragogue, as half a grain to a grain of elaterium, combined with calomel and capsicum to prevent nausea; or the Pulv. Jalap. Comp. $\frac{ss}$; so as to produce ten or twelve copious watery evacuations per day, stimulants being at hand in case of any sinking tendency. The effect of this has on several occasions been perfectly satisfactory, absorption in the chest having now made rapid progress. I derived this idea from a case already alluded to, in which a patient had an accidental hypercatharsis to the amount of sixty stools in two days, which emptied the chest in the same space of time. The patient is better in bed, both because it favours gentle transpiration and obviates faintness.

Remind that, hitherto, I have been treating a case in which the dyspnœa seemed imminently dangerous, and the most vigorous use of remedies, consequently indispensable; but now explain that inconvenience sometimes resulted from hypersalivation; for, notwithstanding an immediate suspension of the mercury either on the first appearance of tenderness of the gums, or of amelioration of the symptoms—especially the dyspnœa and obvious commencement of absorption, untoward salivation would occasionally occur and greatly retard the convalescence.—Explain that, on several times observing this and having reason to believe that the patient could bear the dyspnœa with safety for some hours longer, provided he were prevented from rising, which creates faintness, (case of Mr. Smith, barrister.) I used more moderate quantities of mercury, being content to affect the gums within three or four days. In this way, the action of the remedy was easily controlled, either by omitting the mercury for two or three days if its action threatened to be considerable, or by merely diminishing it according to the evidence of the mouth and of the symptoms. I found, however, that it did not answer to suspend it altogether, but that a continuation of it daily in a mild form, as a blue-pill night and morning, or at night only, for the purpose of maintaining the first impression for a period of two or three weeks, or, in short, until all the disagreeable symptoms had disappeared, was attended with far better success.—Explain, further, that the great acceleration of pulse, which rises commonly to 120 or 130, and in young persons even to 150 or 160, and which is attended with what the patient calls “internal fever,” thirst, craving for cold drinks, and dryness and heat of skin, is not necessarily a result of fever, but it is necessarily a result of anæmia, occasioned by the deficiency of oxygenation from the total incapacity of one lung at least. Here was the error made by Broussais who supposed this to be fever and put his patient on the lowest diet. On the contrary, acting on the opposite principle, I always supply my patients with at least one or two pints of concentrated beef-tea, or plain ox-tail soup; and, if the state of the tongue and the alimentary canal fully authorizes it, I permit them tender old mutton or beef for dinner. On this treatment, the pulse and “internal fever” rapidly fall in proportion as the anæmia disappears.

Next proceed to those cases in which hectic is established, resulting, for the most part, I should imagine, from the fluids being of a puriform character—for, after a month or six weeks, and sometimes much earlier if the inflammation have been very intense, it assumes this character.—Allude to the opinion pretty pre-

valent that mercury is injurious in such cases, and say that I have not found it so, but that its use was still indispensable; for I have noticed that where it has been omitted, contrary to my wishes and instructions, a recurrence of the effusion has taken place, notwithstanding the use of mineral acids and the various other remedies usually considered available against hectic; whereas, on resuming mercury with opium and giving the mineral acids for hectic, I have been enabled to restore matters to their former condition, though not without an extra shake to the patient. One of the best instances of this was presented by Sir Clifford Constable's coachman.—Dwell on this case; say that, after acute pleurisy of three weeks I saw him, and the chest was emptied in a week, but the mercury ordered to be continued. This, on my taking my leave, was omitted; and, as he seemed weak, (*viz.* merely from anæmia,) he was ordered ammonia, brandy, and other stimulants. In ten days, when I was again called in his chest had refilled, and he now had a most violent hectic paroxysm at eleven o'clock, a.m. and again at 11 p.m. Each of these thoroughly drenched him, and during the extreme heat the pulse would rise to 150, being also barely perceptible. In this, I saw nothing but a large quantity of pus in the circulation, which nature was endeavouring to throw off in her usual manner. I believed, in short, that the fluid in the chest was wholly purulent. I, therefore, continued the mercury and blisters in moderation and made free use of the mineral acids, which, fortunately, he bore perfectly well. During the brief intervals of the hectic paroxysms he exhibited that marked relief which we habitually see, and had always a keen appetite for his meals. He, accordingly, took as much mutton chop, beef-steak, or roast or boiled mutton, as he was inclined to take. Under this treatment the chest was again emptied within the space of ten days; the hectic symptoms slowly gave way during a period of a month or six weeks, and I dismissed him convalescent to go to the country. I may add, however, that when the hectic was nearly gone, sulphate of iron was added to his sulphuric acid in order to co-operate with the animal food in removing all remains of anæmia.

Dwell likewise on the case of Mr. Morgan, æt. about 20, who was not only highly hectic, but had also slight gastro-enteritis. I continued the gentle external use of mercury, allayed the irritation of the mucous membrane by mild antiphlogistic means, &c., but allowed him plain veal and chicken-broth, then beef-tea and mutton-broth, in such quantities as I found he could bear. The gastro enteritis having been thus pretty well subdued, he became tolerant of the mineral acids and sulphate of iron, well guarded with laudanum. This youth rendered the progress of absorption more rapid than in the preceding case, for the fluid all disappeared within ten days, with entire relief to his dyspnœa; and so great a restoration resulted from the new supply of oxygen and removal of anæmia, that a week afterwards he came in a cab from the City to the West-end to call upon me.

Auscultators should be careful not to throw away their chances by neglecting to use the stethoscope. In one instance, an accomplished physician, having examined the top of the lung and found it dull, with the other usual signs of induration, without following up his examination down the whole side, took the case for phthisis, and ordered the patient to the southern coast. A common friend having mimicked to me the mode of breathing of the patient, I declared at once, (for his imitations were most graphic,) that such was not the dyspnœa of phthisis; and as I knew him not to be a phthisical subject, and to have been in robust health two months before, I entreated of our friend to go down to the patient in the country the same afternoon, and not to let him stir (for he was to start two days after) without a consultation of physicians. I declined going myself, as having suggested the measure. Answer was returned that if I would not go, he would see no one else, as he had originally intended to have consulted me. I saw him and found—what I was before sure of; namely, that the whole side was full of fluid, indicated by the usual symptoms, including anæmia and

the physical signs. I flattered him that we should empty the chest within a week or ten days, and that he would be convalescent, *Deo volente*, in a month. So it happened, though mercury could only be borne, externally, and that with great reluctance on the part of the patient. His convalescence was somewhat protracted in consequence of the irritable state of the mucous membranes, rendering them incapable of bearing the animal diet, and ferruginous preparations suitable for the removal of the *anæmia*. He had flying pains principally below the region of the heart, but these ceased under the use of plasters, especially *belladonna*; and he has enjoyed perfect health for the past year.

In the great majority of cases an attrition murmur, (always most perceptible along the line of the margin of the lungs from the heart, curling backwards to the bottom of the lower lobe: in other words, below the axilla,) was found to appear as the fluid disappeared by absorption. I have noticed that the longer this attrition murmur lasts, the better; as the adhesions are more apt to be of a loose and elongated character, which I infer from the patient's recovering complete resonance on percussion, and complete restoration of respiratory murmur sooner than in other cases where the attrition murmur lasts but a few days, in consequence, probably, of the adhesions becoming universal and close. Whenever the latter is the case, the patient may lay his account to being more or less delicate for a year and a half or so, because the lung requires fully this time slowly to stretch the adhesions, to re-acquire her natural respiratory murmur; or, if this should never occur, for the patient to gain a compensation by hypertrophy of the opposite lung, which, meanwhile, has constantly been doing vicarious duty; namely, breathing in an exaggerated or puerile manner. These exquisite arrangements of Providence cannot be sufficiently admired. The more we look into them, the more complete we find them.

The lung sometimes remains permanently condensed from the thickness and utter inexpandibility of the side; and dilatation of the bronchi may result from this cause, of which I have met with and detected four or more instances. Condensation of this kind is less frequently attended with falling in of the side than in cases of pleurisy: for the opposite lung slowly becomes hypertrophous and fills up the vacant space, advancing however into the opposite side of the chest, and carrying the heart with it in either direction. Thus, in Peter Parker, an out-patient of St. George's, the heart is protruded almost into the right axilla, and the aorta pulsates an inch to the right of the sternum. Lung condensed by adhesion, is rarely healthy. There is almost invariably a slow, wearing, chronic bronchitis, which harasses and reduces the patient, and generally curtails his existence. Parker had had his cough for ten years, and he was an emaciated and decrepid subject.

Here introduce a number of detached observations, more or less original, on various subjects. Thus, for eight or ten years, I have been in the habit of asking the question of all respectable patients of robust constitutions, who had been attacked with pleurisy, peripneumony, acute rheumatism, whether they were in the habit of wearing flannel, or not; to which they generally answered in the negative—the common reason assigned being, that they were so much exposed that they could not venture to pamper themselves. I recently put the same question to a London physician, and he gave the same answer with a smile, and “my dear friend, it is impossible, &c.” He was attacked with rigors the same night, and had a severe rheumatic fever. I do not quote the poorer classes, for they, almost universally, are deterred from wearing flannel by the expense, and it is notorious that they are subject to acute inflammations of all kinds, in a much greater proportion than the higher classes. Flannel is also highly beneficial to chronic affections of the mucous membrane of the lungs.

Pleurisy is, after rheumatic fever, one of the most frequent causes of pericarditis—not endocarditis, at first—the inflammation being propagated to the peri-

cardium by contiguity of tissue: if endocarditis supervene, it is by propagation from the peri- to the endo cardium.

Diaphragmatic pleurisy may occasion agonizing pain by interfering with the action of so great a muscle as the diaphragm. It is in such cases that we occasionally see the patient put on what is called the sardonic grin, a species of sympathetic spasm dependent on the excito-motory system and nerves.

In some convenient part of the paper, give a brief and compact, but very clear synopsis of the signs of a chest full of fluid. For I repeat that, well as these are known to systematic writers, they are singularly forgotten and overlooked by practitioners. They ought, therefore, to be pushed prominently forward on every occasion. Refer, likewise, to a synopsis of the signs of anæmia in the essay on that subject; by which the practitioner will readily distinguish this condition from that of fever, for which it has been mistaken by Broussais and others.

Wind up by a general statement, that, if Dr. Stokes has cured twenty cases running by Mons. Lugol's solution and ointment of iodine, together with blisters and other means; and I have cured thirty-three consecutive cases by other means; fifty-three cases cured successively, without selection, afford a strong presumption that all really curable cases are curable without paracentesis. It remains to be proved by experience whether iodine or mercury be the less injurious to the constitution. I have myself the most favourable opinion of the harmlessness of the iodide of potassium when protected by starch—that is, a little bread with each dose; for I made the experiment of giving eight-grain doses against three-grain doses, in two hundred cases, for the purpose of ascertaining which dose was the most efficacious. The larger, both being given thrice a day, succeeded incomparably the better, and I now rarely give the smaller.

I have met with seven or eight cases of circumscribed pleurisy, and whenever a chronic pleurisy becomes very protracted, I am not sorry to see a purulo-sanguineous discharge take place periodically, as it generally does, into the bronchial tubes; for, in this case, a slow process of healing generally occurs, and the patient, in a fair proportion of cases, recovers. I have recently discharged one, Henry Wade, who appeared to me to have had a chronic pleurisy engrafted on a previous circumscribed or sacculated one. The history of the chronic one is developed in my journal in the utmost detail; but the patient also informed me that some months before he had been under the care of a physician in Norfolk, who had treated him for six months previously for a discharge of half a pint of pus mixed with blood, expectorated once a day from the bronchial passages. After this time he sent him to London to consult me, and I found him with a very circumscribed empyæma that he might have had, obscured by general empyæma. This having been removed, the original circumscribed empyæma pointed at the chest, and discharged by two or three apertures. When the discharge was free by the apertures it was correspondingly diminished by the bronchial tubes. Both slowly decreased. The circumscribed empyæma seemed to descend very low in the splenic region, and after nine months of hospital attendance as an in-patient he was dismissed without discharge, with slight cough and in general good health, his weight being at least 12 stone, though a moderate-sized man.

I discharged a patient from the Mary-le-bone Infirmary, cured six times of circumscribed empyæma above the left mamma, and opening into the bronchi. At the end of six months he was completely well.

In another, in the Mary-le-bone Infirmary, the whole length of a probe could be passed directly into the chest. He recovered, but with much collapse of one side.

A third in the Mary-le-bone Infirmary, a boy of 18, had effusion for six months. My colleagues, in consultation, had given their opinion that he was tubercular. The operation of paracentesis, therefore, was negatived. The opposite lung was soon after attacked with peripneumony and he died, when the

exemption from tubercles was proved. I did not then understand an efficient treatment for fluid in the chest; and was therefore an advocate for the early operation on the principle of the late Dr. Thomas Davies of Broad Street. I had much regret, therefore, respecting this case, that the operation had not been performed. One feature was remarkable. Andral, Broussais, and others, recommend that patients in chronic pleuritis should be kept on light diet. This youth ate twelve ounces of dressed meat at dinner; eight ounces at breakfast with two eggs; tea and milk ad libitum; sixteen ounces of bread daily.

Numerous similar cases shew that nature's mode of performing the operation is incomparably more safe than paracentesis.

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✍ We regret these discussions on the

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The objection assumes that typhus confers no immunity from subsequent attacks and that the exanthemata do confer an immunity. The answer is, that experience warrants our belief in a considerable power of destroying the liability to subsequent attacks of typhus, and that, though there can be no doubt of the exanthemata possessing this power, exceptions to it are frequent in all of them.

It must be admitted that in this country there is a general belief in the protecting power of a seasoning or initiatory fever, and though we rarely meet with a medical man who has not had typhus, we certainly meet with few indeed who have had it more than once. The nature of the subject does not admit of very precise proof. We can only obtain the *general results* of experience. Dr. Barker,* states as the results of his, "that he has for some time entertained the opinion that sufferers from fever attended with this eruption, if they are not altogether secured by it from a second attack, are not at least so liable to it as those who have had a fever of the ordinary kind; and, though he frequently made the enquiry, he never found a patient in whom this symptom was distinct who had suffered from the same fever on any former occasion." Dr. Perry† states as the result of an extensive series of observations his opinion, "that typhus generally is taken but once in a life-time, and that a second attack does not occur more frequently than of small-pox, and less frequently than of measles or scarlatina." Dr. Davidson states that of 609 patients in the Glasgow fever hospital only 74 stated that they had ever had fever previously. He justly observes that when we take into account the various diseases which are confounded with typhus, this small number can be easily accounted for.

But the protective power of the exanthemata has been much overrated. Three instances of second attacks of small pox came to my knowledge in this county very recently. In two of them the patients had suffered the disease from inoculation a very few years before. In one in which the inoculated disease was severe a most confluent eruption accompanied the second attack seven years after. Another instance has been related to me of a lady living in this country who has had the disease three times. Dr. Roupell refers to the case of one who had it seven times.

Instances of second attacks of measles are given by Dr. Bailie, who attended five children in May, and again in the following November, by Dr. Webster.‡ and by Rayer, who states that he met with three instances of second attacks of measles in the interval between the publication of the first and second editions of his work. The remarkable case of a second attack by Dr. Graves§ should, perhaps, be termed relapse into measles. The second eruption appeared twenty-one days after the commencement of the first illness, in which the eruption had been copious and severe.

Cases of second attack of scarlatina are stated by Roupell to be not at all uncommon. Several have fallen under my own observation.

V. The liability to relapse in cases of typhus has been urged as an objection to the classification by Harty and others. It might be replied that cases of measles, such as that of Dr. Graves just referred to, and cases of *reversio*, as it is termed by Rayer, after scarlatina, would tend to shew that the exanthemata are not exempt from relapse. But the true answer is that typhus is *peculiarly exempt* from relapse. Two kinds of cases are erroneously considered such: 1st. Relapses from typhus into fever symptomatic of a visceral irritation—generally gastro enterite.—"I am persuaded," says Cheyne,|| that obstinate and fatal

* Dublin Medical Transactions. Vol. 2.

† Dublin Med. Journ. Vol. 10, and Edin. Med. and Surg. Journ. Jan. 1836.

‡ Medico-Chirurgical Transactions. 2nd Series. Vol. 4.

§ Dublin Medical Journal, Nov. 1840.

|| Dublin Hospital Reports. Vol. 1.

relapses after typhoid fevers are often attributable to inflammation and, perhaps, ulceration of the villous coat of the intestines." And Broussais asserts that "when the frequency of pulse in 'convalescence' does not diminish, and the strength does not increase, it may be suspected that a form of latent inflammation exists. It may be discovered by permitting an excess which generally changes this frequency into a *réal fever*, and develops the pain of the irritated part;"* but, 2ndly, cases of fevers not typhoid will under exposure to infection relapse into typhus. Dr. Davidson gives a tabular view of the relapses in the Glasgow Fever Hospital among 586 cases, in which no case of relapse from typhus into typhus occurred, but two of febricula and one of intestinal fever into typhus.

In 500 cases of fever admitted into the Navan Hospital in 1840, two cases only of relapse into typhus occurred, both were cases of febricula, which after a few days were sent to the convalescent ward, where they relapsed into maculated typhus, one in four days and the other in fourteen days after their removal thither.

VI. Lastly, the following extraordinary objection is put forward by Dr. West:—†

"The type of the fever itself varies, being sometimes intermittent, sometimes continued, changing from the one to the other form, and being occasionally converted into other diseases."

In other words there is no such disease as typhus?

To this the supporter of the speciality of typhus replies, that the disease is here, and in numerous quotations throughout the paper, confounded with other fevers; typhoid it may be in their nature, or becoming so in their progress, not arising from an animal infectious poison, but from a variety of sources, which contain a variety of poisons, the identity of *any one of which* with the *typhus* poison is a matter in dispute, and to be argued upon the conclusion of our investigation into these sources in the following chapter.

Meantime the pertinent remarks of Dr. Copland, upon this subject, are not unworthy the notice of those who rely for the means of drawing accurate distinctions upon such sources as Dr. West has explored:—"True or contagious typhus has been confounded with synchoid and nervous fevers on the one hand, and with putrid or malignant fevers on the other. It has been already stated that putridity or malignancy, not only may characterize a particular form of fever or certain epidemics even at an early period of their course, but, also, owing to various contingencies, may take place in advanced stages of any other fever. As the circumstances favouring the generation and spread of typhus are often such as also tend to develop those changes which have been usually named putrid or malignant, and as these changes are frequently observed in the latter stages of typhus—the symptoms distinguishing this fever becoming associated with, or followed by, those indicating the putro-adynamic state—so has it been often confounded with other fevers in which this state has predominated more or less. If we refer to the numerous histories of epidemic typhus, recorded by writers from the close of the 15th century up to the present time, we shall find that although many of these, owing to the concurrence of circumstances, developing a putrid or malignant disease, were instances of fever either identical with or very closely resembling that which I have described as such in the preceding section, yet many others, or even the majority, were true typhus, in which the putro-adynamic state was either early or predominantly developed. The exanthematous eruption, characteristic of typhus, being succeeded or accompanied by the petechiæ, indicating the approach of the septic condition, and being either

* Chronic Phlegmasiæ, Vol. 2, p. 53.

† On Exanthematous Typhus.

mistaken for them or for an eruption of miliaria. Owing to this circumstance, especially typhus, low, nervous, and putrid fevers, have been very generally confounded together.

The reader of the foregoing, and many other passages in Dr. Copland's admirable article on typhus, must be startled with the following passage in Dr. Roupell's recent work on the disease, when he finds that Dr. Copland is not like Peebles and others, who have described exanthematous typhus, passed over in silence, but is actually mentioned by name as belonging to the authors referred to.

"In the above description *typhus* is considered to belong to the continued fevers. It is looked upon by the most recent authors, in this and other countries, not as an individual disorder, but as one into which others may be and frequently are converted!" (page 5.)

Here for the present we leave the subject, since that portion of the argument for the classification of typhus with the exanthemata, which is derived from the differences between it and other continued fevers, will properly come under consideration when discussing the identity of typhus and typhoid fever.

CHAPTER II.—OF A FEVER POISON, GENERATED DURING THE DECOMPOSITION OF DEAD ORGANIC MATTERS.

The difficulties attending an examination into this part of the enquiry into the sources of fever are very great, and are confessed by all who are familiar with the conflicting statements advanced on the subject. Our difficulties are increased by the indeterminate character of much of the evidence offered in proof of the paludal origin of fever, some of which not only claims to prove the power of such sources to cause continued, but *infectious* fever—by the fact that much of this evidence is moreover inadequate, as it proves only the occurrence of fever in situations and among persons which might be considered equally obnoxious to contagion as to miasm, and by the silence, or mysterious, or contradictory language of those to whom we might look for assistance and direction in a scrutiny of the mass of conflicting testimony, from which our conclusions are to be drawn.

Thus, Dr. Christison says, "the great questions involved in the investigations into the causes of continued fever are three in number:—Does the disease originate in infection? Does it originate in other causes? Granting that it does originate in other causes, may such fevers propagate themselves by infection? It will be seen that they cannot be all answered by any means with equal confidence;" and, accordingly, while he is full and illustrative on the subject of contagion, he treats of other causes in a most cursory and unsatisfactory manner, and while he admits that "the general conclusion from the whole facts seems to be that a disease, undistinguishable from true infectious fever, may sometimes arise without infection," adds, "that on descending from the general question to the more special one—what the other cause or causes of fever may be?—the difficulties are greatly increased, indeed they become insurmountable, without such limited and vague facts as are at present possessed on the subject," and "it appears a needless waste of time and labour to attempt anything further on this head."

Nor are we more enlightened by Dr. Davidson, who, while he states that he is not prepared to assert that febrile affections may not, under peculiar circumstances (what he does not inform us), arise from paludal sources, effectually excludes them from consideration by putting forward the following conclusions under the head of "Alleged sources of continued fevers, *not* typhoid."

"From a consideration of the whole evidence that might be adduced respecting this point, it may be drawn as a conclusion, that although putrid

matters when injected into the veins of animals cause death under symptoms similar to those of typhus fever, yet that the effluvia arising from similar matters do not, under ordinary circumstances, produce any deleterious effects on man." Again—"Before concluding this part of the essay we shall notice an hypothesis, which has lately been somewhat confidently brought forward to account for the prevalence of typhus in some large cities, viz: that a peculiar malaria is generated by the animal and vegetable filth, which accumulate along the sides of rivers running through large towns, and that the inhabitants who live in their immediate vicinity become thereby subject to fever. We are quite aware that very disagreeable and sometimes fætid effluvia occasionally arise from such situations, particularly during hot weather, but that it is capable of causing continued fever has not even been rendered probable by any satisfactory evidence."

We have it stated upon high authority that gaseous contagions contain organic matter in a state of decomposition or progressive change. We have it also announced that from certain decomposing animal and vegetable substances, organic matter in a state of "progress to decay" is evolved, which, when collected and retained in a manner similar to the former, completes the stage of decomposition, or, in other words, "putrefies."

By evidence of the most unexceptionable kind the former of these is proved to be capable of communicating the *state of change*, of which it is the subject, to the healthy human organism.

We have to enquire whether the analogy of *action* of these bodies is as perfect as the analogy of *condition* appears to be, and, whether, "when the process of respiration is modified by contact with a matter in the progress to decay, when this matter communicates the decomposition, of which it is the subject, to the blood—disease is produced."

We shall first state the analogy of condition of the *tangible poison*, evolved from decomposing organic substances, in the words of Dr. Southwood Smith—not only because it is clearly stated by him (so far as relates to its tangible existence), but also, because this passage has furnished the text for some of the objections which we shall have to consider* :—"It is known to every one that the putrefaction of vegetable and animal matter produces a poison, which is capable of exerting an injurious action on the human body. But the extent to which this poison is generated, the conditions favourable to its production, and the range of its noxious agency, are not sufficiently understood and appreciated. It is a matter of experience, that during the decomposition of dead organic substances—whether vegetable or animal—aided by heat and moisture, and other peculiarities of climate, a poison is generated, which, when in a state of high concentration, is capable of producing instantaneous death by a single inspiration of air in which it is diffused. Experience also shews that this poison even when it is largely diluted by an admixture with atmospheric air, and when, consequently, it is unable to prove thus suddenly fatal, is still the fruitful source of sickness and mortality—partly in proportion to its intensity, and partly in proportion to the length of time, and the constancy with which the body remains exposed to it, &c.

"But this poison was too subtle to be reduced to a tangible form. Even its existence was ascertainable only by its mortal influence on the human body; and although the induction commonly made as to its origin, namely, that it is the product of putrefying vegetable and animal matter, appeared inevitable, seeing that its virulence is always in proportion to the quantity of vegetable and animal matters present, and to the perfect combination of the circumstances favourable to their decomposition, still the opinion could only be regarded as an inference.

* Poor-law Commissioners' Fourth Report, page 130.

But modern science has recently succeeded in making a most important step in the elucidation of this subject. It has now been demonstrated by direct experiment, that in certain situations, in which the air is loaded with poisonous exhalations, the poisonous matter consists of vegetable and animal substances in a high state of putrescency. If a quantity of air in which such exhalations are present be collected, the vapour may be condensed by cold and other agents, a residuum is obtained, which on examination, is found to be composed of vegetable or animal matter in a state of putrefaction. This matter constitutes a deadly poison. A minute quantity of this poison applied to an animal, previously in sound health, destroys life with the most intense symptoms of malignant fever. If, for example, 10 or 12 drops of a fluid, containing this highly putrid matter, be injected into the jugular vein of a dog, the animal is seized with acute fever, the action of the heart is inordinately excited, the respiration becomes accelerated, the heat increased, the prostration of strength extreme, the muscular power so exhausted that the animal lies on the ground wholly unable to stir or to make the slightest effort, and after a short time it is actually seized with the black vomit, identical in the nature of the matter evacuated with that which is thrown up by a person labouring under yellow fever. By varying the intensity and the dose of the poison thus obtained it is possible to produce fever of almost any type, endowed with almost any degree of mortal power."

In this last sentence we recognise the echo of Majendie's questionable assertions; the preceeding statements are confirmed by the account of experiments upon "le mauvais air," given by Devergie:—"The gas, which is disengaged from putrefying animal matters, extracts with it a particular odour, infectious 'infecte,' characterized by the general term, putrid odour. We attribute this odour to miasma, that is to say to a cause void of meaning, because we are ignorant of the nature of the object which it represents.

Guntz has endeavoured to enlighten the phenomenon by the following experiment; he placed a bell glass over a portion of a putrefying dead body, in such a manner as to permit the air to penetrate, he submitted the apparatus to a temperature of 26° Cent. (equivalent to about 78° Far.) and, after a period sufficiently prolonged, he suddenly cooled the bell glass; immediately the product of the vapour assembled itself into drops, which evolved a strong odour of miasma. he treated these drops with chlorine, when the odour disappeared. He was thus led to suppose that the gas in escaping from the putrefying animal matter carried with it the vapour of water combined with a certain quantity of animal matter, very minutely divided, and this constitutes what has been named miasma.

This is not the only experiment calculated to lead to this opinion—others have been made with respect to vegetable matters. Moscati entertained the first idea of condensing the water dissolved in the atmosphere, for the purpose of detecting the principle which occasioned "le mauvais air." He suspended at some distance from the soil mattresses full of ice; the water which became deposited upon their surfaces condensed itself readily, when limpid it presented many small flakes which possessed all the essential properties of *animalized matter*. After a few days they putrefied completely. In the course of the year 1812, M. Rigaud undertook, in the marshes of Languedoc, a series of essays directed to the same end. He condensed dew on glasses, and the water which he obtained by this means presented all the phenomena obtained by Moscati.

In 1819 M. Boussingault observed that *sulphuric acid* placed in the proximity of a well, in which he had caused animal matter to putrefy, *blackened* very rapidly. He repeated this experiment in many infectious places, and found con-

* *Medicine Legale*. Tom. 1, p. 100. I am indebted to my friend Dr. Aldridge for referring me to this account of experiments on the subject.

stantly that the coloration of the acid was more prompt according as the air was more infectious," &c.

The inference naturally deduced from such experiments as the foregoing, taken in conjunction with the fact of the occurrence of fever in situations where these putrid exhalations have been found to exist—namely, that they contain a *fever poison*—has been met by numerous objections. The principal seem to be the following:—1. That a mephitic poison is confounded with the fever poison. 2. It is denied that these sources ever generate fever, because the number of cases does not bear a sufficient proportion to the number of instances of exposure, and because they generate several diseases differing in their nature from fever, and it would amount to a confounding of fever with these,* if we attributed its origin to the same poison. 3. It has been objected to the evidence of the frequent occurrence of fever from this source—that it is furnished from the experience of persons who deny the infectiousness of fever, and is, therefore, suspicious; † that in the recorded cases malaria and contagion have been confounded; that it amounts only to a proof of the frequent coincidence of fever and the effluvia from filth, and does not prove that the former stands to the latter in the relation of an effect to a cause; that, granting continued fever is ever thus produced, it is not contagious or typhus fever, &c.

1. It has been said ‡—"If the statements of Dr. Smith were put into the simple form of the only proposition which they really contain, they would amount merely to this—that exhalations from certain putrescent matters have the power of producing both asphyxia and continued or typhus fever; the former of which is a result familiar to all, and the latter, a mere assertion, deriving a little hue of probability from its juxta position to a known truth. There is a wide difference between the asphyxia, which is caused by mephitic gases, and typhus fever,—a difference which can never be explained, as Dr. Smith attempts to do, by a reference to the diversity in the doses of the poison. We presume that if a few doses of the poison, in its less potent shape, were sufficient to create typhus fever, *a fortiori*, such a quantity of it in a more concentrated form, as would be capable of producing a state of asphyxia not ultimately fatal, would commonly at least leave the sufferer for days or weeks in the toils of a highly dangerous fever, yet the reverse is the case, as the histories of mephitism amply demonstrate."

So they doubtless do, and they, moreover, shew that in some cases of recovery from mephitism, a disease, apparently the effect of a morbid poison, followed, though *not* fever.

But this writer has, like Dr. Smith, confounded the action of two poisons of different kinds—an inorganic poison, sulphuretted hydrogen, and a morbid poison, whose action depends not upon its chemical qualities, but upon the existing condition of its particles, they being at the time of their evolution in a state of decomposition or transposition.

The advocate for the malarial origin of fever does not regard the fever poison as the product of *extreme putrefaction*, capable of causing mephitism or fever, according to the dose in which it is applied. But he holds that during the *progress* to decay of organic substances, matter in a state of decomposition is

* "Dr. Smith illustrates and supports his doctrine of the malarial origin of fever by referring to facts which relate merely to periodic fevers; and he maintains the identity of the 'fever poison' of this country with the poison of plague; wherefore, on the principle, that things that are equal to the same thing are equal to one another—plague and ague are generated by the same poison!"—*Forbes's Review*, No. 21, p. 13.

† Vide Dr. Christison's article—Fever. Library of Medicine.

‡ Forbes's Review, ut supra.

evolved which is capable of communicating its state to the organism with which it may be brought into contact, while, on the completion of the process of decomposition, the morbid poison ceases to be evolved and the mephitic poison is generated.

A perfect analogy to this is found in the effects of decayed suases, which, according to Christison, "are poisonous only at a particular stage of decay, and cease to be so when putrefaction has advanced so far that sulphuretted hydrogen (the mephitic gas) is evolved." True, in mixed sources, and those which are receiving daily additions of new matters, the morbid poison may co-exist with the mephitic poison, and the latter may occasionally, by its sedative effects upon the nervous system, assist the operation of the former; but they are essentially different in their nature and action.

The second objection—"an alleged want of proof that the fever poison is ever generated in such sources"—rests, 1st, upon the relatively small number of cases of fever so produced, compared with the activity of contagion; and, 2ndly, upon the fact that several diseases of different kinds, from *tic-doloureux* up to plague, are attributed to miasmatic effluvia. Can we (it is asked) believe that they are all owing to the same poison?

The first of these grounds is urged against decomposing animal matters; the second chiefly against mixed sources, as sewers, banks of rivers, &c.

It is true that very few observations exist which can be said to prove the occurrence of fever from exposure to animal putrefaction—still, some such cases have occurred. The following is referred to by Dr. Christison as an unexceptionable one:—

*"An American merchant-ship was lying at anchor in Wampoa road, sixteen miles from Canton. One of her crew died of dysentery. He was taken on shore to be buried; no disease of any kind had occurred in the ship from her departure from America till her arrival in the river Tigris. Four men accompanied the corpse and two of them began to dig a grave. Unfortunately they lit upon a spot where a human body had been buried about two or three months previously, as was afterwards ascertained,—the instant the spade went through the lid of the coffin a most dreadful effluvia issued forth and the two men fell down nearly lifeless: it was with the greatest difficulty their companions could approach near enough to drag them from the spot and fill up the place with earth. The two men now recovered a little, and, with assistance, reached the boat and returned on board. . . . One of these men died on the evening of the fourth day, and the other on the morning of the fifth, after symptoms of malignant petechial fever (the petechiæ occurring on the fourth day).

"In eight days after the opening of the grave one of those who were not engaged in the work was attacked with the same symptoms as his companions, and the fourth had a slight indisposition of no very decided character."

It is to be remarked, that in the above case two circumstances were present which we shall see have not always existed in the negative instances, brought forward to prove that this is not a source of fever; namely, "*confinement of the effluvia*," and a *not very advanced* stage of putrefaction. Ferriar, who did not consider the exhalations from putrid animal matters a source of fever, says—† "It appears from some late observations made on altering the vaults of a church in France, that the *confined effluvia* of putrid bodies produce fever when brought into action. Perhaps this is the solution of the question." ‡ "Fourcroy states, that the grave-diggers informed him that the putrid process disengages

* Medico-Chirurgical Review, for Jan. 1825, p. 203. Dr. Christison also refers to the Mem. de la Soc. Royale de Med. 1. 97.

† Medical Histories, vol. 1. On New Contagions.

‡ Walker's gatherings from Grave-yards, p. 124.

elastic fluid, which inflates the abdomen and at last bursts it; that this event instantly causes vertigo, faintness and nausea in such persons as, unfortunately, are within a certain distance of the spot where it happens, &c." In the exhumations, conducted on such a large scale at the cemetery of the Innocents, and quoted by Bancroft and others in proof of his position, neither of these conditions could have existed, since no interments had been allowed for six years previously.

In many of the cases also related by Mr. Walker it is mentioned that the bodies had been buried for years, or were in an advanced stage of putrefaction; under these circumstances mephitism was produced—but not fever.

The other part of this objection, namely that so many different diseases are ascribed to this source—can they all be the effect of the same poison? can only be answered by supposing a variety of morbid poisons to be formed together or consecutively in the same source. Several considerations render it probable that this is the case in some malarial sources.

1. The progressive nature of the changes which the decomposing body undergoes, and the different circumstances under which the same organic matters (undergoing decomposition) may be placed in different places, or at different times. There is nothing improbable in the supposition, that the same source may at one time give origin to the poison of ague, and at another to the poison of fever.

2. The fact that an individual exposed to these sources will frequently become affected with two diseases. These will usually follow one another at a short interval. "In the vast horde of cases," says Dr. Addison,* "which the river side is continually sending forth, synochus and typhus are of frequent occurrence, and these are frequently followed, when the patient is convalescent, by well-defined agues." Sir H. Marsh has noticed the same occurrence in the epidemic of 1826, in Dublin, and it is well known that after this epidemic the hospitals of that city were filled with cases of ague. This is perfectly analogous to what happens from exposure to two morbid poisons, the one which has the shortest latent period takes precedence and is followed by the other, as in the case related by Dr. Williams of a boy who was inoculated at the same time with the virus of measles and cow-pock. The cow-pock first ran its course, and was then followed by measles. In the same way it is very possible that the poison of ague, imbibed at an early part of the year, may lie latent until the conclusion of a continued fever received many weeks later.

3. This power of generating different diseases, is alleged of those sources in particular which contain a *variety* of organic matters, and which are in a state of constant change from the superaddition of new materials or from atmospheric changes—such as sewers, the banks of rivers, &c.,—and it is to these that the great body of evidence, as to the frequent production of fever, applies, and not to the regular, uniform, and spontaneous decomposition of any single portion of animal matter, however great its bulk.†

* On Malaria. London Medical Gazette,—vol. 3, new series.

† If the subject admitted of an explanation purely hypothetical we might draw an analogy, not destitute of plausibility, between the action of human contagion and putrefaction in this particular; and we might suppose, that as in fever generated spontaneously in the human body, there does not seem to exist any power of communication by infection, so in dead animal matter the product of any single mass of spontaneous putrefaction is not a fever poison, but that this is generated by the exposure of *fresh* dead organic matter to the contagion of the former. For this hypothesis to be consistent with the facts, the following should be the various consequences of exposure to putrefactive decomposition:—

SECT. II.—In order to obviate the objections urged against the evidence of the frequent occurrence of fever from malarial sources,—namely, that it has been confounded with contagion, and that, at all events, the evidence proves, no more than the frequent co existence of filth, fever and poverty.

We shall select only a few cases which have occurred under circumstances unfavourable to the supposition of such a cause as contagion, and the histories of which present contrasts to that of contagious fever in some of the following particulars.

I. The class of persons affected, not those usually obnoxious to contagious fever unless under circumstances of prolonged exposure.

II. Occurring without the presence of any of the aids to contagion and at an opposite season of the year.

III. In localities in which contagious fever does not prevail.

IV. Spreading in spite of the preventive measures, which are found to check the diffusion of contagious fever.

"In great towns," says Christison, "cases are met with during the intervals between epidemics, and in a station of life where epidemic fever in epidemic seasons of the worst kind is seldom witnessed. A fever of this description tedious in its course, characterized by much nervous and muscular depression, without any particular local disturbance, and, aspecially, without the marked disorder of the functions of the brain which distinguishes most cases of epidemic typhus and synochus, was so prevalent among the better ranks in certain streets of Edinburgh some years ago, at a time when fever was not prevalent among the working classes, that a general impression arose among professional people of the existence of some unusual local miasma. A great variety of parallel facts might be referred to—all leading to the general conclusion, that a disease if not identical with, at all events closely resembling, synochus and typhus as described above, may arise without the possibility of tracing it to communication with the sick. A statement of this kind acquires great weight in the instance of such a visitation of disease as that just alluded to, which prevailed among people in easy circumstances in a great town."

Very similar is the testimony of Dr. Cheyne: "For several years the fever appeared in families only in solitary instances, or if more than one were affected they were seized nearly at the same time, but it did not extend so as to lead us to think that it propagated itself. We were unable to assign the cause of the disease further than that we observed in several houses, in which our patients lay, that factor which is discoverable when a sewer is choked, and, in some instances, upon enquiry it was found that the sewer leading from the house had been improperly constructed and neglected."

A similar instance of fever, apparently caused by defective sewerage, came under my observation recently in the house of a gentleman of fortune in this county. For a long time an unpleasant odour had been remarked in several parts of the mansion, more especially near this gentleman's study and in the

1. From exposure to a single mass of animal matter undergoing spontaneous putrefaction—no fever.

2. From exposure to the emanations from substances added to the former disease, varying in intensity in proportion as circumstances were more or less favourable to rapid communication of the "contagion of decay" from decomposing to recent organic matter.

3. From successive exposure of a number of individuals to successive additions of organic matter, (under above circumstances), a number of cases of disease.

men servants' sleeping apartment. The poisonous effects of the malaria were first produced in the form of obstinate dysentery in one of the female servants. Then the owner of the mansion was attacked with what he at first supposed was mere biliary derangement, but which rapidly assumed all the characters of severe gastric fever, becoming attended toward the close with purple petechiæ and terminating fatally on the 11th day.

About the same time two men servants were seized with symptoms of fever. In one it was cut short and in the other it ran its course, ending favourably about the 11th day. Two other persons who came to the house on business (from the neighbourhood) and who remained in it for a few hours, were seized with the same fever, which ran through its course at their own houses but without extending to other individuals.

After this lamented occurrence the cause of the effluvium was searched for and found to be a leakage of the soil pipe of one of the water-closets, which had allowed the filth to percolate through the wall and exhale into the atmosphere of the house. This exhalation was also much favoured by the warm temperature kept up in the house by heated flues.

About the months of October and November, 1839, I was repeatedly consulted by the inmates of a large establishment in the neighbourhood of Navan, on account of different forms of gastro-enteric affection, especially diarrhœa and dysentery. So many instances occurred at intervals, (in some cases of weeks) and the general resemblance was so great, that I thought they must arise from some local cause, and I expressed a strong suspicion that some source of malaria existed in the house or immediate vicinity. The house itself was large, airy and commodious, so that our inspection was directed rather to the immediate neighbourhood, and it was thought that the cause had been discovered in an old sewer which had been laid open in the course of some building operations. The closing of this was not, however, attended with the effect of stopping the endemic affection, though it gradually ceased after about a dozen people had been attacked. The following spring was remarkably dry, scarcely any rain having fallen for about six weeks: toward the close of this period an effluvium of a very disagreeable nature became perceptible in some parts of the house, and at the same time—within a day of each other—two of the inmates were attacked with exquisitely marked typhus, attended with profuse measly eruption, and in one of the patients with violent delirium. Every circumstance rendered the existence of contagion in either case highly improbable, I might almost say impossible, and on my again expressing my strong conviction that some form of malaria was the cause of the fever, I was informed of the effluvium perceived in some of the passages, and also of the fact that in the original construction of the water-closets they had been made to depend for their supply of water upon a cistern of rain water, which, of course, had been for weeks empty during the present spring and preceding autumn. These cases did not spread, and all traces of indisposition were removed by making the required alterations for ensuring a constant supply of water.

In the month of October, 1839, I attended a respectable man who resided in a large and airy mansion, as "care-taker," during the absence of the family upon the Continent. His illness had come on slowly and insidiously, but, when I saw him, had all the characters of bad remittent fever, attended with much abdominal congestion. This it was attempted to relieve by leeches, &c. but it increased and led afterwards to large evacuations of blood from the bowels. He recovered slowly and with difficulty. At the time I saw him he was lying in the basement story of the house.

A few weeks after the return home of the family, the *butler* was attacked with symptoms of gastro-enterite and slight jaundice. He recovered partially in a few days, but in the course of a week after was suddenly seized with complete loss of muscular power, paleness and coldness of the surface, sickness of

stomach, &c., followed by vomiting of a dark olive fluid, and in two days by large evacuations of tarry blood from the bowels, hiccup, subsultus, &c. while the skin was covered with vibices and black petechiæ—some of them of the size of large shot. The fever which followed had no perceptible remissions and perfectly accorded with the descriptions of putrid malignant fever by Huxham and others. The striking resemblance of some of the symptoms of this case to that which had occurred in the same place more than a year before, led me to attribute both to a common cause and to enquire for the source of the malaria. The following were the facts ascertained:—In a room in the basement story, occupied by the last patient and in which he had lately sometimes slept, was a sink emptying into a pipe, which communicated at the distance of about ten feet with the main sewer of the house—into which the contents of two water-closets passed. This sewer was very large at its termination and when the wind blew from that direction towards the house, there being no smell trap under the sink, the effluvium of the sewer was carried up into this room and became so insupportable that the patient used to stuff the aperture with a piece of rag when retiring to bed. Upon enquiry I was informed that the first patient had frequently before his illness remarked the same fætid effluvium. It is worthy of remark that the sewer had *not* been cleaned in the interval between the two cases.

The following case, very similar to the last in its nature and origin, I give up on the *suspicious* authority of an anticontagionist* ;—"I attended," says Dr. Armstrong,† "a very respectable tradesman, labouring under a remarkable bad attack of typhus fever. It was such a case as would have been called plague in the time of Sydenham. He had knotted gland and carbuncles, and black petechiæ. He was one of four or five individuals who had transacted some business in a nobleman's kitchen ; a filthy fluid had overflowed that kitchen ; he was sickened at the time, and in common with *all* the others had an attack of typhus fever."

If we looked about for a large town less liable to contagious fever than others we might probably find it in Birmingham,—yet here endemial causes of the kind, which Dr. Davidson has pronounced inadequate to this effect, have produced fever. A good instance for illustration is found in Dr. Ward's account of an endemic fever, which prevailed in certain localities in Birmingham's in the summer of 1837.

‡ "The river Rea, that separates Birmingham from its suburb Badesley and serves as a cloaca maxima to both, carries its filthy stream onward, partly to turn a mill and partly to fill a mill pond. During the drought which prevailed last year the water was very low in the main stream and mill pond, and the mills not being regularly worked became quite stagnant and offensive. The back stream also became dry and shewed its mud banks, that were only occasionally wetted by a flush of the washings of the town after a shower, or by the small surplus accumulated during the cessation of the working of the mills. The exhalations from the half dried mud and putrid water were so disagreeable at night as to nauseate the more delicate inhabitants of the adjoining streets, and soon produce disease in the form of typhoid fever of an infectious (!) character." He goes on to state that about 50 cases—some fatal—occurred in the immediate vicinity of the stream, and "still lower down the stream, where the water was as black as ink, there were 13 pauper cases in one yard, and many others, both pauper and private, along the same line." That this fever was owing to the state of the stream is proved by the disease being confined to the locality, the small number affected in so large a population as Birmingham, the season of the year, and the exemption of this town from the causes which aid contagion—these are well-summed up by Dr. Ward.

* See Christison, *ut supra*.

† Lectures by Rix.

‡ Provincial Medical Transactions, vol. 6.

"There is a difference of nearly 200 feet in the elevation of different parts of the town. The streets and the courts or yards in which the mechanics live are wide and airy in general; fuel is cheaper than in any other large town in England; and the water is excellent—and till within the last year there has been but little distress."

We have already adduced the effects of seclusion of the sick in proof of the infectiousness of typhus. In the fever arising from endemial sources this measure has no such influence. I was much struck with this fact when making some investigations as to the source of a fever, which prevailed in the summer of 1839 in a hamlet attached to a flax manufactory near this town, from which a considerable number of cases had been sent to hospital in the months of April, May, and June. The object of an examination which I made of the place was to obtain satisfactory instances of contagion, but I soon found that no such evidence was to be procured. For the intervals between the illness of different members of the families were too irregular to admit of communication from one to another. Thus, in one house the first case sickened on the 2nd of April, and the second on the 5th. In another, more than three months intervened between the first and second cases. And in several families in which the first case had been early removed to hospital, the second had sickened before the patient's return. Besides, there was too much cleanliness and comfort; several of the houses had been repeatedly white-washed during the time that the fever was going through the family, and the inmates were all well off—being employed in the neighbouring factory.

Several things convinced me that this fever had a malarial origin. The hamlet was built in the form of two parallel streets, terminating in a large open space in front of which were twelve houses looking North East. This space had no drainage and was full of shallow pools of black putrescent water, into which the inmates daily threw cabbage leaves, &c. to rot for manure. In this country the East and North East winds prevail for the first three months of summer—April to June—and in consequence the inhabitants of the twelve houses described were peculiarly obnoxious to the emanations from these pools. The weather had during the summer been usually dry and favourable to such emanations. Accordingly I found that while only seven cases of fever had occurred in twenty-two houses, forming the longer of the two streets, 30 out of 50 (the entire number) had occurred in these twelve houses.

The proof was to my mind rendered complete by the immediate effect of the heavy rains which set in, in July. The disease was stopped at once and I have not heard of a case of fever in the same place since.

Similar proof, derived from the sanatory effect of the removal of the assigned cause, was afforded me in the case of a house in this county from which three servants were sent into the Navan hospital at short intervals labouring under continued fever, one of whom was also admitted a second time with severe dysentery. A very offensive smell had been long noticed in the yard adjoining the kitchen, and after the occurrence of these cases the sewer leading from the kitchen was in consequence examined, and found to be completely obstructed by a quantity of black putrescent matter. Upon the removal of this the smell of course disappeared and no return of indisposition has since occurred, either among the servants or family. There was not the slightest evidence of contagion in any of these cases.

A reason for attributing the fever to the operation of endemial causes might be found in some instances, in the fact of the great indisposition of the disease to spread in the house in which a case occurs, even though the circumstances favourable to contagion may be present. Such an instance is given by Dr. Ferguson which we shall have again to notice.

In a paper on the statistics of fever, in Belfast, Dr. Mateer states that "one street, Carricks Hill, and its continuation, Mill-field, with the adjoining lanes

and entries, are found to have furnished three fifths of the whole amount of cases, and yet they are by no means the poorest or worst ventilated parts of the town." He attributes the prevalence of fever in this locality to the great want of water—"the consequences of which are want of cleanliness and bad sewerage, so that decayed animal and vegetable matter of all kinds, not being carried off by a current of water in the usual way, accumulate and generate miasmata."* This observation is of the more value that Dr. Mateer adduces it in support of the action of infection. Upon which an active reviewer remarks:—"Surely this offers the very strongest argument against Dr. Mateer's own view of the extensive operation of contagion; why should this be all powerful in one particular locality? why should it not do its worst where poverty and bad ventilation flourish? why, but that on the large scale other causes of fever are far more potent than contagion."†

Lastly, the following case by Dr. Currie illustrates this form of fever in several particulars:—

"The 30th Regiment, as is usual with troops in Liverpool, was billeted in the town but paraded and mounted guard in the fort, situated north of the town and on the banks of the river. The general guard room had been used, previous to the arrival of the 30th, as a place of confinement for deserters; it was extremely close and dirty, and under it was a cellar, which in the winter had been full of water. *This water was now half evaporated and from the surface issued offensive exhalations.*

In a dark, narrow, and unventilated cell off the guard room it was usual to confine such men as were sent to the guard for misbehaviour, and about the beginning of June, 1792, several men had been shut up in this place on account of drunkenness, and suffered to remain there twenty-four hours under the debility that succeeds intoxication. The typhus or jail fever made its appearance in two of these men about the first of the month and spread with great rapidity. Ten of the soldiers labouring under this epidemic were received into the Liverpool Infirmary.....The symptoms of the fever were very uniform, in every case there was more or less cough with mucous expectoration: in all those who had sustained the disease eight days and upwards there were petechiæ on the skin, in several there were occasional bleedings from the nose and streaks of blood in the expectoration. The debility was considerable from the first. Great pain in the head with stupor pervaded the whole, and in several instances there occurred a considerably degree of low delirium. Our next care was to stop the progress of the infection; with this view the guard house was at first attempted to be purified by washing and ventilation; the greatest part of its furniture having been burnt or thrown into the sea. All our precautions and exertions of this kind were, however, found to be ineffectual. The weather was at this time wet, and extremely cold for the season: the men on guard could not be prevailed on to remain in the open air and from passing the night in the infected guard room, several of the privates of the successive reliefs on the 10th, 11th, and 12th of the month, caught the infection. No means having been found effectual for the purification of the guard room it was shut up, and a temporary shed erected in its stead. Still the contagion proceeded on the morning of the 13th, three more having been added to the list of the infected. On that day, therefore, the whole regiment was drawn up at my request, and the men examined in their ranks; seventeen were found with symptoms of fever upon them. It was not difficult to distinguish them as they stood by their fellows. Their countenances were languid, their whole appearance dejected, and the admata of their eyes had a dull red suffusion. These men were carefully sepa-

* Dublin Medical Journal, September, 1836.

† Medico-Chirurgical Review, Oct. 1836.

rated from the rest of the corps and immediately subjected to the cold affusion. . . . These means were successful in arresting the epidemic—after the 13th of June no person was attacked by it.”

It may seem presumptuous to offer an opinion differing from that expressed by the distinguished writer under whose observation these cases occurred, but we think there is every reason to question the existence of infection, and to regard them as of purely endemial origin. Let us consider them with reference to the circumstances unfavourable to the existence of contagion before enumerated.

1. *The class of persons affected.* British soldiers in time of peace are not obnoxious to contagious fever. The fact is stated by Dr. Cheyne, that while fever of this kind prevailed in the street contiguous to the principal barrack in Dublin, in 1817, and among a class of persons with whom the soldiers commonly associate, they escaped, because “little under the influence of the predisposing causes of fever; for the pay of the soldier is ample, he is well clothed, well fed, well lodged, and well looked after, and all his wants in health as well as in sickness are provided for.”*

2. *The season of its occurrence* is another strong reason for considering this fever of an endemial kind. A contagious epidemic may live out the summer, but unless it is imported we should doubt its being generated at that season.

3. *The locality* was also unfavourable. Isolated as it was, an imported contagion was unlikely.

4. *The inefficacy of all the preventive measures*, short of removal from the locality, with the immediate cessation of the disease which followed this step, are strongly opposed to the idea of infection. In fact if it be admitted that the stage of maturation or crisis is the period of infection, an examination of the dates of these cases will shew that in no one was the disease so far advanced as to have enabled the patient to communicate it to his comrades, supposing them (which is not at all probable) to have had access to the hospital. On the other hand the positive evidence in favour of malaria is clear and decisive. Several individuals were exposed to this source during the debility which succeeds intoxication, and slept in its immediate neighbourhood. They were attacked, and others in succession as they became exposed to the same source. The malarious spot is abandoned on the 12th, and no case is observed after the 13th. Hereafter we shall attempt to shew that the symptoms of these cases were such as characterise not typhus but typhoid fever—especially the late appearance of petechiæ, the exudations of blood from the air-passages, and the form of disturbance of the sensorial functions.

The above are a few of the instances which might be brought forward to prove the occurrence of fever in situations and circumstances unfavourable to contagion, and not liable to the objection that *filth* has existed merely in fortuitous connexion with *fever and poverty*. It would not be difficult to draw from the published histories of infectious fever (so called) such a number of similar facts, as would render doubtful the justice of Christison's objection, that “as for the few instances remaining, where true primary fever appears to originate in one of the above causes, all that need be said farther is that for one instance where such fever follows such cause, a thousand instances occur where no effect of the kind ensues, and that, consequently, some more essential influence is probably brought into play, than what appears merely on the surface of the investigation.” But some argue that the disease produced is not fever—for, first, it does not diffuse itself as fever does by injection. This is not the place to enter upon an examination of the conflicting statements upon this question—we shall do so hereafter: but admitting that it has been asserted too hastily by Dr. S. Smith, and others, that *infectious fever* is generated by paludal sources, we

deny that this justifies the inference sought to be deduced, that, therefore, *continued fever* is not so generated. On the contrary, it seems more consonant with reason to infer, that if fever affects a number of individuals in a certain locality without appearing to be communicated from one individual to another, and without, in any instance, being carried from that locality, this fever must arise from some local source common to all the affected persons. And if that party are in extreme, who hold that fever of a contagious specific character is daily generated by common causes external to the human body, equally so are the opposite party who deny to these sources the power to cause fever, "not typhoid," while at the same time they are ready to admit the identity of their own "specific contagion" with a disease which, the most eminent observers maintain, is never contagious! It is surely more consistent with the doctrine of the speciality of typhus to let it stand alone, and to give a place to non-contagious continued fever, than to exclude the latter by a doubtful assimilation of typhus and typhoid fevers. Hereafter we shall attempt to shew that the most recent science is in accordance with the practical observation of Grant, that "these fevers, 'typhus,' are generally contagious which the common fevers are not, unless their nature is altered, and they are rendered malignant *by bad treatment*"—while we may see reason in the present state of society in our large cities, in the widely prevailing influence of crowding, poverty, non-ventilation, &c., and the consequently frequent and facile transition of *common* into *contagious* fever, why the most opposite conclusions are formed as to their origin and diffusion, and why it happens, as Christison truly remarks, that "the greater proportion of the discrepant doctrines of the present day as to the origin of fever are founded essentially upon the same great body of facts."

Again, by some it is urged that the disease produced by paludal emanations differs from continued fever in symptoms and in type. Thus Dr. Christison alleges that "few inquirers have taken sufficient pains to distinguish primary continued fever from irritative gastric fever." This objection cannot be allowed to have much weight so long as the *primary* nature of typhoid fever is a matter of dispute. Upon the subject of the type Dr. Christison may be quoted against his party, for if, as he asserts, "The coast remittent fever of Africa and other tropical countries seems to differ little in its characters from synochus, with a rapid and early stage of typhoid depression,"* what becomes of the argument against the malarial origin of continued fevers from alleged differences in the nature of these and the intermittent and remittent fevers, also produced by malaria? Besides how can the exclusive contagionist answer the anti-contagionist who rests his doctrine on such facts as those adduced by Armstrong: "Shortly after I had published my 3d edition on typhus fever, in which I had strenuously maintained the doctrine of human contagion, I met with a case of intermittent fever; in a few days the fever became remittent, and in a few days more put on the continued character, and the patient died with all the most malignant symptoms!"† or how will he dispose of the assertion of Dr. Elliotson, that most cases of so called typhus fever are really remittent,‡ or explains

* Library of Medicine.

† Lectures by Rix.

‡ Lectures by Rogers. Dr. Mateer also observes—"We have the paroxysms of which fever is made up best seen in the intermittent and remittent fevers, but still by careful observation we can detect something of the same kind, though masked and often difficult to recognize, in the continued fevers of this country. These almost always assume more or less of the remittent character."—*Dublin Journal*, *ut supra*.

Dr. Currie remarks, whoever has watched the progress of fever must have observed the justness of the observations made by Cullen, Vogel, De Haen, and others, that even those genera which are denominated continued are not strictly

the occurrence (already noticed) described by Marsh and Addison of well-defined ague, following on the subsidence of continued typhus or synochus? Was the ague also the effect of contagion? Or will the contagionist escape from the necessity of adopting so easy a solution of the difficulty as the supposition of different morbid poisons, generated at different periods in the same locality by a simple denial of the fact, and an impeachment of the accuracy of the observers who have recorded it? "In Sydenham's time," says Dr. Hancock, "and even in that of Fothergill, the quotidian of spring became continued fever in summer, while the simple continued fever of summer often changed to a malignant type in autumn. These were simple observations at a time when systematic arrangements had not put physicians in trammels. But now lest we should be guilty of medical heresy we must not insinuate that ague can change into continued fever, and non-contagious fever into contagious typhus, either in an individual case or in the course of the year."

SECT. III.—*Varieties of the Sources and Modes of Application of the Poison.*

The organic matter constituting the source of the morbid poison may be purely animal, vegetable, or a mixture of both.

It must be admitted that fever seems to be very rarely produced by exposure to purely animal exhalations, and the facts brought forward by Bancroft, Chisholm, Duchatelet, and others, shew that in the great majority of cases this exposure has been continued for any length of time with perfect impunity, but still there have occurred well-authenticated instances to the contrary, some of which have been referred to; and a fact lately published, by M. Devergie, deserves farther notice. It is the occurrence of hospital gangrene in the hospital of St. Louis, which he attributes to the emanations from Montfaucon, since the disease was confined to the wards which were exposed to those emanations, and did not appear in other parts of the building.

Now if we admit the inference which seems naturally to follow from such instances as those related by Pringle, Hennen, &c., of the occurrence of typhus in the unwounded in wards, in which hospital gangrene existed, and of typhus attacking the attendants employed in washing the bandages of the same—namely, that hospital gangrene is a modification, or as it has been expressed, "a visible personification" of the typhus poison; we cannot avoid the admission that a fever poison may be generated by decomposing animal matter under certain conditions.

What the conditions required for this result may be, and why it so seldom happens that fever is thus produced, are questions to be resolved by deeper and more accurate investigations than appear yet to have been made.

There seems to be a more general belief in the activity of the vegetable poison, though why it might be difficult to say, unless from juxta-position with the known fact of their power to cause periodic fevers, since there is at least an equal paucity of strict evidence with regard to this as to the animal source. About 15 years since I witnessed the origin of a highly typhoid petechial fever in a healthy village in England, which appeared to arise from a vegetable source

such, but have pretty regular and distinct exacerbations and remissions in each diurnal period.—*Med. Reports*, p. 16.

And Dr. Fordyce says the similarity between these three kinds has determined practitioners of the greatest eminence, through the whole history of medicine, to consider them as the same disease. Many have thought that in a continued fever the subsequent paroxysm takes place in the hot fit of the prior paroxysm, &c.—(*3d Dissertation*, p. 59.)

a heap of putrefying turnips. In a house close to the nuisance, a boy had for two or three weeks been complaining of headache, lassitude, and debility, but had not been placed under any medical care. On the day on which I saw him he had been attacked with epistaxis which continued till his death, on the day following. His skin was covered with small ecchymotic petechiæ. After his death petechial fever appeared in the family, consisting of six persons, and in the adjoining houses, and proved fatal in several instances. It did not spread beyond the locality and subsided in a few weeks. The season of the year (summer,) with the other circumstances, were unfavourable to the supposition of contagion.

But it is to sources containing *mixed* organic matters that the experience of all observers point as most efficient in producing continued fever; such are slaughterhouses, obstructed sewers, cesspools, &c. &c. It were needless to add to the details already given of cases originating in these sources.

The modes in which the poison may be applied to the organism are by direct introduction into the circulation, by being taken into the stomach, by inhalation, and by the skin.

Fever, or a disease confessedly bearing a close resemblance to it, has been produced in the lower animals by experiments too well known to need us to dwell upon them, and occasionally the typhoid symptoms which appear in other diseases would seem to be owing to the absorption of putrid matters into the circulation. A case of the kind once occurred under my own observation: a boy aged ten years was received into hospital, labouring apparently under typhoid fever, he sunk after a few days, and on dissection the only lesion discoverable was a carious state of the petrous bone, with a minute opening communicating with the lateral sinus, through which the matter of the carious abscess had passed into the circulation.

It is but rarely that an instance occurs of fever produced by putrid matters taken into the stomach, and the immunity enjoyed by savages, who live much upon putrid flesh, &c., has been referred to by Bancroft and others, not only against the fact, but also against the supposition of putrid animal matters containing a fever poison. It is not difficult to understand that this should be the case, since digestion, an antiseptic process, precedes assimilation, and changes remarkably the matters submitted to its operation; or, as accurately expressed by Liebig, putrid poisons having an *alkaline* reaction are rendered inert by the acids contained in the stomach, while these exert no such power over poisonous sausages which have an *acid* reaction. But this rule is not without some exceptions. In Dr. Christison's work on poisons is a report of a case which occurred in Stockport in the year 1830, of a family of five persons who were poisoned with broth made of putrid beef; in three instances the disease produced was severe, and in one fatal. It is worthy of remark (and is in accordance with the mode of action of a *morbid poison*) that in the worst cases the illness did not commence till the second, and (in the fatal case) the third day after the meal. A case is somewhere narrated of a regiment in which putrid fever prevailed, and in which the disease was checked upon a discovery being made that the water used for drinking was drawn from a well in which some bodies were lying in state of putrefaction.

Dr. Copland* remarks upon the effects of drinking the water of the Seine at Paris, and Dr. Hancock observes, that it has been frequently remarked that this water produces diarrhœa in every one except the Parisian accustomed to the use of it.† Dr. Tweedie refers to the history of a fever ascribed to the combined effect of drinking putrid water and the emanations from the same— and others ascribe

* Dictionary of Practical Medicine, art. Endemic Influences.

† Cyclopædia of Practical Medicine, art. Endemic Diseases.

the putrid fevers of Paris to the fact that "there are numerous wells in that city from which many of the inhabitants derive their whole supply of water, not a few of which are situated in the very neighbourhood where the 'fosses' are the worst constructed and the least attended to; the urine, therefore, permeating the soil must necessarily contaminate the springs from which these wells are fed."*

The evidence given before the committee on the health of towns, by Mr. J. B. Wood, bears upon this question. After stating (qs. 2150-4) that 31,000 persons live in the cellars of Liverpool—forming two-thirds of the working population—he states that, "in districts in which these cellars are situated; there is a great deal of broken ground in which there are pits; the water accumulates in these pits, and of course at the fall of the year there is a good deal of water in them, in which there have been thrown dead dogs and cats and a great many offensive articles. This water is *nevertheless used for culinary purposes*. I could not believe this at first, I thought it was only used for washing but I found it was used by the poorer inhabitants for culinary purposes."

The change produced in the fluids and solids of an animal by over driving seems to be capable of becoming a cause of disease in the human body. In the remarkable case giving by Andral from Du Hamel it does not appear that fever, strictly speaking, was produced. The effect rather resembled hospital gangrene; but an instance is recorded of typhus fever following from eating the flesh of animals under similar circumstances. It is thus quoted by Dr. Gross: † "A few years ago a number of fattened cattle were driven into one of the New England cities, and having been pressed too hard in a sultry day were so overheated that some of them became quite exhausted. In this condition they were slaughtered, and the consequence was, as is stated by the reporter of the case, Dr. Fountain, that nearly all who partook of their flesh were seized with typhous fever."

These and similar observations would seem to shew that the morbid poison, the product of putrefactive decomposition, may be received into the system through the stomach, more especially if presented in the fluid form; but there is every reason to conclude that fever is but seldom produced in this way, and that the general mode of introduction is through the respiration of the gaseous exhalations, which, as we have seen, are found upon their being collected and condensed to contain animalized matter in the state of progress to decay, whose power of producing disease, in those exposed to their influence, has been questioned and is by many denied, but appears to be proved by evidence of a very satisfactory nature, and which applies with most force to cases occurring under circumstances unfavourable to the action of contagion.

SECT. IV.—On the mode of Action of the Poison.

This does not appear to be attributable to its chemical qualities, but to its *condition*. It is the power of communicating an action, since there can be no doubt that its effects continue to be produced equally after the removal as during the presence of the cause, when once this cause has impressed its mode of action upon the organism. What the mode of this impression is, and what part of the system is the subject of it in the first instance, we have now to enquire, as also into the order of the phenomena subsequently produced and constituting the formed disease.

The generally received opinion seems to be that the nervous system is the

* Medico-Chirurg. Review, vol. 6.

† Pathological Anatomy, vol. 1, p. 223.

subject of the first morbid impression, and its derangements the first in the morbid series constituting fever.

This doctrine is thus maintained by Dr. Southwood Smith*—"The immediate exciting cause of fever is a poison which operates primarily and specifically upon the brain and spinal chord. The diseased state into which these organs are brought by the operation of the poison, deprives them of the power of communicating to the system that supply of stimulus, (nervous and sensorial influence), which is requisite to maintain the functions of the economy in the state of health. The organs, the seats of the functions, deprived of their supply of nervous influence, become deranged, the derangement in each taking place in a fixed order and in a determinate manner.

Subsequently to the nervous and the sensorial, the organs the next to suffer are those of the circulation, then those of respiration, and, ultimately, those which belong to secretion and excretion. The condition of the nervous system, which produces this derangement in this circle of organs, occasions further, in that portion of the circulating system which consists of the capillary blood-vessels, that peculiar state which constitutes inflammation: hence inflammation is almost always established in one or more of the organs comprehended in the febrile circle and sometimes in all of them." In another passage the same writer says—"The more closely and extensively the subject is investigated the more clear and satisfactory the evidence becomes, that the great primary cause of fever is a poison, the operation of which, like that of some other poisons, the nature of which is better understood and the action of which has been more completely examined, is ascertained to be upon the nervous system. How these poisons act upon the nervous system we do not know, nor can we possibly know as long as we remain so profoundly ignorant of the nature of the action of the nervous system in the state of health."

It will be seen that Dr. Smith's argument, like that of others already examined, is rested upon a fallacious analogy to certain other poisons, and like these is open to the fatal objection, that such poisons really produce their effect upon the nervous system subsequently to their diffusion through the blood. It moreover lacks the support derived in the former cases from the occurrence of a nervous shock, since such rarely, if ever, attends exposure to the paludal sources of fever. On the other hand, some of the arguments for a modified humoral theory before adduced, apply with greater force to this than the animal miasm, and additional ones are not wanting to strengthen the proofs that all derangements of function in fever are subsequent to the introduction of the poison into the blood, and the consequent vitiation of that fluid. For, its latency is even more remarkable than that of the animal infection of typhus, while a close observation of the state of the patient, during this period, will shew a derangement of the secreting and excreting functions, which seem to be labouring to rid the system of the poison, or of those products which it has a tendency to generate in the blood; again, we can not unfrequently trace the abrupt termination of this period, and the supervention of formed disease to a suspension of the depuratory action, by cold, intemperance, or any other cause which disturbs the order of the excreting functions and arrests the elimination of the morbid product. Thus, in an exquisitely marked case of paludal fever, which was lately under my care and which terminated fatally after large evacuations of blood from the bowels, it was remarked spontaneously by the patient's friends that, for six weeks before fever commenced, not only had he suffered from capricious appetite and irregular bowels, but that a remarkable thick copious deposit had been constantly present in his urine. During this period he had been living and sleeping in immediate proximity to a collection of filth,

* *Treatise on Fever.*

which at times filled the house (in other respects a cleanly and comfortable one) with an insufferable putrid effluvia.

This instance also illustrates the cumulative property of the poison, which is much more remarkable than that of the animal infection. Unlike the latter, which is often most severe upon its first introduction into a family, the poison of malaria seems commonly to affect each successive patient more severely than the preceding.

To what can this be attributed but to the accumulation in the blood consequent upon longer continued imbibition of the poison? This is similar to the explanation offered by Cruveilhier, of the general incurability of phlebitis from the absorption of pus. Experiments have shewn that, from a single injection of putrid pus into the vein, an animal may, after copious evacuations, recover; he therefore concludes that similar success might attend the evacuant treatment of phlebitis, did not the renewal of the sources of infection follow the incessant renewal of the pus. But we can not only detect the presence and agency of the poison in the circulation through the deranged excretions, but also occasionally in the physical changes of the blood itself previous to the occurrence of formed disease. The following observations of Dr. Potter* on this subject, are highly interesting and important, and from the care and accuracy with which they appear to have been made, are entitled to great weight in the discussion of the mode of access of fevers arising from malaria. He says, "it was remarkable in all cases in which it was deemed expedient to bleed, the blood wore the same general appearances. After a separation had taken place, the serum assumed a yellow shade: often a deep orange, and a portion of the red globules was invariably precipitated.

It occurred to me that if the remote cause resided in a common atmosphere, the blood of all who had inhaled it a certain time would exhibit similar phenomena. It accorded with the pathology I had conceived, to conclude, that all who lived in an atmosphere so impregnated were constantly predisposed, and that an additional or exciting cause only would be required to develop the symptoms and form. To ascertain the appearances of the blood in subjects apparently in good health, I drew it from five persons who had lived during the whole season in the most infected parts of the city, and who were, to every external appearance and inward feeling, in perfect health. The appearance of the blood could not be distinguished from that of those who laboured under the most inveterate grades of the disease. As this experiment might have been considered inconclusive unless the blood could be compared with that of those who lived in a purer atmosphere, remote from the evolution of miasmata, I selected an equal number of persons who lived on the hills of Baltimore County, and drew from them ten ounces of blood. The contrast in the appearances was so manifest that no cause for hesitation remained. There was neither a preternaturally yellow serum, nor a red precipitate; the appearances were such as we find in the blood of healthy subjects. A young gentleman, having returned from the western part of Pennsylvania on the 10th of September, I drew a few ounces of blood from a vein on that day; it discovered no deviation from that of other healthy persons. He remained in my family till the 26th of the month, and on that day I repeated the bloodletting. The serum had assumed a deep yellow hue, and a copious precipitate of red globules had fallen to the bottom of the

* Quoted by Dr. Tweedie, Art. Fever, *Cyclopædia of Practical Medicine*.

Dr. Tweedie's own expressed opinion is "whether the opinion of the older writers, that in fevers originating from contagion, the contagious principle alters the properties of the blood be correct or not, we certainly think the strong analogy in the cases alluded to, tends to confirm the supposition of typhoid fevers originating in diseased blood."

receiving vessel. Of the six persons whose blood assumed those indications of the remote cause, four were seized with fever during the epidemic; the other two escaped any formal attack, but complained occasionally of headache, nausea, and other indications of disease."

Similar experiments were instituted by Dr. Stevens, and with a like result, the blood being black in colour, and evidently deranged in its properties previous to the commencement of the fever.

It might almost be considered unnecessary to strengthen the inference from such facts as these, by observing on the effect of the blood of the gases, evolved from sources which we consider the evidence already adduced proves to contain a fever poison, when these are presented in a sufficient degree of concentration to produce rapidly fatal effects.

Describing the consequences of exposure to the emanation from Parisian privies, Dr. Christison says:—"The appearances in the bodies of persons killed by these emanations are *fluidity and blackness of the blood*, a dark tint of all the internal vascular organs, annihilation of the contractility of the muscles, more or less redness of the bronchial tubes and *secretion of brown mucus there as well as in the nostrils*, gorging of the lungs, an odour throughout the whole viscera, like that of decayed fish, a tendency to early putrefaction."

With these and similar facts before us, we cannot agree in the sweeping decision of Dr. Smith, that "changes in the fluids can only be second in the series of morbid events: they can never hold the first place in that series: they can never be antecedents or first causes, but merely sequents or effects."* We rather think that the evidence existing on the subject, if fairly examined, points to the blood as the seat of the primary operations of the morbid agent, and the subject of the changes which it is a part of its condition necessarily to produce. And regarding all derangements of the functions occurring in fever as the consequences of the molecular changes in that fluid, we proceed to examine into the order in which these consecutive phenomena occur—the mode of their production, and their mutual dependence one upon another.

Supposing Dr. Smith's to be a fair exposition of the views generally entertained in this country, we find, upon reverting to his chapter on the theory of fever, that the doctrine maintained is, that subsequently to the supposed primary nervous impression, "the organs the next to suffer are those of the circulation, then those of respiration; and ultimately those which belong to secretion and excretion. The condition of the nervous system which produces this derangement in this circle of organs, occasions further in that portion of the circulating system, which consists of the capillary bloodvessels, that peculiar state which constitutes inflammation: hence inflammation is almost always established in one or more of the organs comprehended in the febrile circle and sometimes in all of them." If this passage admits of a precise construction it must be that in consequence of a certain impression on the nervous system a state of general inflammation exists (or at least a state approaching to inflammation) in the capillaries of all the organs, and which is equally likely to become actual inflammation in any of them during fever. Without denying this frequency of visceral inflammation in fever, or the great necessity of recognising and combatting it, it may be reasonably doubted if so variable and non-essential an occurrence—with one exception—or one so dependent for its existence and its seat upon accidental causes—as season, atmosphere, epidemic influences, states of constitution, &c.—as these local inflammations are, can be properly admitted into the discussion of a theory of fever. Either this combination of inflammation in some organ, with a peculiar state of the nervous system, is necessary to constitute fever, or it is not. That it is, seems unlikely, since morbid anatomy fails to detect it in a

* On Fever, p. 330.

portion of instances. If it be not then according to this theory, nothing will remain but a certain peculiar affection of the nervous system to account for the phenomena of fever. But in the kind of fever under consideration there is a local affection generally regarded as inflammatory, and which is so constantly present and found to exercise so great an influence on the disease as to have been considered by some eminent pathologists to be the essential cause of typhoid fever. It is that affection of the mucous glands of the small intestines described under the name of Dothin-enteritis. This affection claims a special consideration, since no one can impartially examine the evidence put forward in support of their views of the pathology of fever by Louis and Chomel, in France, or the cases incidentally published in the writings of Bright, Tweedie, Smith, Graves and Stokes, Hodgkin, &c. in this country, without being conceived that in some forms of fever—which farther examination will shew to be paludal fever—this dothin-enteritis is a constant and most important complication, if indeed it be not the pathological cause of the disease.

But if we seek an explanation of its occurrence in Dr. Smith's theory, we are first at a loss to know why an impression on the brain and spinal chord should lead to consequent inflammation in a part the most remote of any from their influence, and whose functions are under the control of a different portion of the nervous system. Then, in very many cases, we find that the symptoms of intestinal irritation preceded this nervous impression—that in others, in which death took place at an early period of fever, it was found far advanced—as by Louis so early as the 8th day—and could not therefore be regarded as a secondary phenomenon. And that in other cases, in which the poison was presented in so concentrated a form that death took place before fever could be established, the glands of Peyer exhibited the same appearance as in that disease. The following interesting case of this kind is given by Dr. Christison.

In *August* last, twenty-two boys, living at a boarding-school at Clapham, were seized in the course of three or four hours with alarming symptoms of violent irritation in the stomach and bowels, subsultus of the muscles of the arms, and excessive prostration of strength. Another had been similarly attacked three days before. The child died in twenty-five, and one of the others in twenty-three hours. On examination after death, the Peyerian glands of the intestines were found in the former case enlarged, and, as it were tuberculated: in the other, there were also ulcers of the mucous coat of the small intestines, and softening of that coat in the colon. A suspicion of poisoning having naturally arisen, the various utensils and articles of food used by the family were examined but without success. And the only circumstance which appeared to explain the accident was, that two days before the first child took ill, a foul cesspool had been opened, and the materials diffused over a garden adjoining the childrens' play-ground. This was considered a sufficient cause of the disease, by Dr. Spurgin and Messrs. Angus and Saunders of Clapham, as well as by Drs. Latham and Chambers and Mr. Pearson, of London, who personally examined the whole particulars." There cannot, we think, be a doubt that their opinion was correct, and that nothing but the rapid termination prevented the development of the phenomena of fever in these cases; but in fairness to Dr. Christison, it should be added, that he considers "this opinion cannot be received with confidence by the medical jurist and the physician, since it is not supported by any previous account of the effects of sulphuretted hydrogen." Perhaps these cases may receive some confirmation from the following report (certainly not a full one) of a similar accident by Dr. Arnott.* "In a mews behind Bedford-square, a stable had been let for a time to a butcher, and a heap of dung had been formed at the door, containing pigs' offal, pigeons' dung, &c. During the act of

* Fourth Report of Poor Law Commissioners, p. 106.

removing this heap, a coachman's wife and her three children, of an adjoining stable, sat for a time at an open window nearly over the place until the insufferable stench drove them away: two of the poor children died of the poison before 36 hours, and the mother and other child narrowly escaped."

In Dr. Christison's cases the description of the appearances of Peyer's glands exactly corresponds (especially the first case) with Dr. Bright's description, and with the representation given in one of the plates in his great work. As also with the minute investigations of Dr. Staberoh, who regards the first stage of the follicular affection, as "an infiltration into the mucous coat, and especially the crypts called Peyerian glands," but also taking place, as he has repeatedly seen it, in different parts of the colon, "and to which he considers the inflammation of the mucous membrane secondary."—(Dublin Journal, Vol. 13.)

But farther—if dothin-enterite were a consequence of disordered circulation depending upon an impression on the brain and spinal chord, we might expect to meet it in other cases in which these organs are engaged, as in the periodic fevers and in typhus: but we do not, nor can any other local inflammation be named as similarly constant in these diseases, and filling its place in the "febrile circle." On the contrary, M'Cartney, Armstrong, and others, have fully proved that the vascular congestion commonly found in these diseases is not of an inflammatory nature, and that, though it may remotely give rise in certain cases to an inflammatory re-action for its removal, it is yet a distinct pathological condition.*

Two other opinions may be entertained of the relation of dothin-enterite to fever. One, that it is the primary cause: that fever is the sum of the symptoms of the inflammation—the other, that it is the specific effect of the septic poison from which typhoid fever originates, and like the other symptoms of this disease, merely a link in the chain of sequences constituting fever.

Perhaps the strongest arguments for the first of these opinions are the large proportion of cases of typhoid fever in which it is found to exist,—the influence it exercises upon the severity of the disease, and the effects of antiphlogistic remedies, more especially of topical blood-letting. It will be presently seen that the two first circumstances are equally well explained upon the second opinion. With reference to the effects of blood-letting it must be admitted that a very considerable amelioration of symptoms, and not unfrequently their total removal, has followed timely and free abstraction of blood, especially by leeches applied over the affected intestine, and not only are the tenderness and pain in the part, with the meteorism and diarrhœa thus relieved, but the head-ache, thirst, pulse, and other general symptoms* commonly undergo at least a temporary and partial improvement. But it may be doubted whether this is to be attributed so much to the removal of inflammation as to an impression made upon the general disease, by the new movement given to the circulation in general by the smallest local abstraction of blood, and which is felt in every part of the system.

One or two circumstances may be cited in proof of this dynamic effect of bleeding, and to illustrate its application to the present case—1st, the well-known fact that the impression made upon the central organ of the circulation by the bleeding from a few leech bites is totally disproportionate to the quantity taken away. 2nd. The effect of leeching, or bleeding in some other disorders in which no supposition of inflammation could exist. In amenorrhœa, for instance, we have known the disorder of several months' standing removed by the application of a few leeches to the inguinal region before the leeches were themselves removed. In ague also, an effect almost equally marked may be sometimes produced by the same means. The following short case illustrate this. C. F—, æt. 20, was admitted into the Navan Hospital on the 22nd of February, labour-

* For Dr. M'Cartney's observations, see Dub. Med. Trans. Vol. 2, p. 574.

ing under tertian ague. The fit comes on two hours earlier at each period. Has some tenderness on pressure, and fulness of epigastrium, thirst, tongue red at tip and edges—previous to entering hospital took two emetics and an aperient. A fit took place about 3 a. m. on the 21st, and might be expected to recur at one a. m. on the 23rd. I ordered 12 leeches to be applied on the evening of the 22nd to the epigastrium, and a draught to be taken at bed-time, containing 20 drops of laudanum. The fit occurred at 5 a. m. 4 hours later than it was expected. On the 25th it came on at 7, and the leeching being repeated on the evening of the 26th, he sweated copiously during the night, and had no return of the fit. There was a slight return of it five days after, but from this time he got rapidly well.

Without entering farther into the discussion of the theory, that dothinenenteritis is the cause of the febrile phenomena, we pass on to submit certain considerations in support of the view which regards it as an effect not of the fever or of the state of the nervous and circulating systems produced by the fever, but as the direct effect of the poison itself—as one (probably the first) of the links in the chain of sequences, constituting fever, and one upon the occurrence of which some of the others may probably depend. This view approaches nearer to that of Louis, who is of opinion that the affection of the follicles occurs in the beginning of the disease, than to that of Chomel, who seems inclined to admit its classification among the secondary inflammations, but differs from the definition of the former eminent pathologist, inasmuch as it seeks to establish the agency of a morbid poison as the cause of fever, in place of his decision “that the cause is unknown.” The following extract from his summary of the diagnostic symptoms of typhoid fever is important, as containing two particulars which we shall find to have a bearing upon this inquiry.

“*Maladie agüe accompagnée d'un mouvement febrile plus ou moins intense, variable dans sa durée; propre aux jeunes sujets, principalement à ceux qui se lèvent depuis peu de temps au milieu de circonstances nouvelles pour eux, dont la cause est inconnue: debutant par un frisson violent, l'anorexia, la soif, et dans la très grande majorité des cas par des coliques et la diarrhée,*” &c.

The two circumstances here mentioned by Louis, of the subjects of typhoid fever being those newly exposed to influences, the nature of which he concludes are not known—and the diarrhœa which ushers in the complaint,—we conceive tend to support the theory that the intestinal affection is a consequence of the effort made by the excreting organs—more especially the liver—to rid the system of the poison which has been introduced into the blood. It is easy to conceive that the native of Paris, born and brought up in the atmosphere of its fesses, and drinking all his life the tainted waters of its wells and river, may habitually eliminate from the blood such products as are thus taken in unfit for assimilation or nutriment, and that to a constitution unused to such a task the consequence of taking into the circulation the same decomposing substances should be different. And, if we aid our conception of this fact by a reference to what takes place in the different classes of persons exposed to malaria of other kinds in temperate climates, we shall see why intestinal affections should be among the first consequences of the process; for it will appear that the liver is the organ by means of whose excretions the poison is attempted to be got rid of, and according to the facility with which this is performed or otherwise, will be the chances of escape or the contrary, from the effects of the poison. It is well known that, while the lungs of a native of a warm climate are liable to become diseased upon removal to a cold one, the liver is the organ prone to suffer upon the inhabitant of a cold removing to a warm climate. It is also found that the stranger from a colder country will rapidly contract fever from exposure to malaria in a temperate climate, while the person newly arrived from a warm one will not be similarly affected until that change in the order of his functions termed acclimatization has taken place, and he becomes assimilated in habits to the inhabitant of the same latitude.

(To be concluded in our next.)







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